

No. 755,692.

PATENTED MAR. 29, 1904.

W. A. NICHOLS, SR. & J. F. NEFF.

RAILROAD TIE.

APPLICATION FILED AUG. 8, 1903.

NO MODEL.

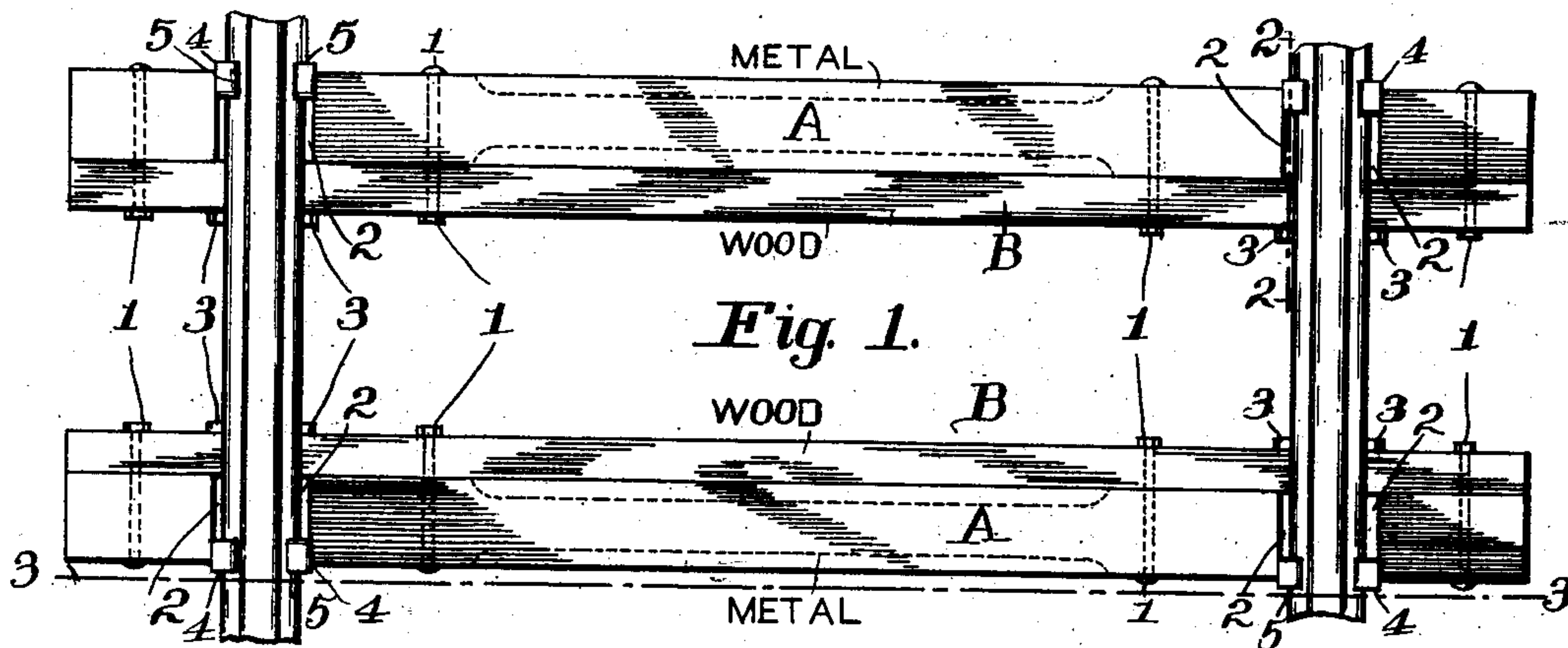


Fig. 2.

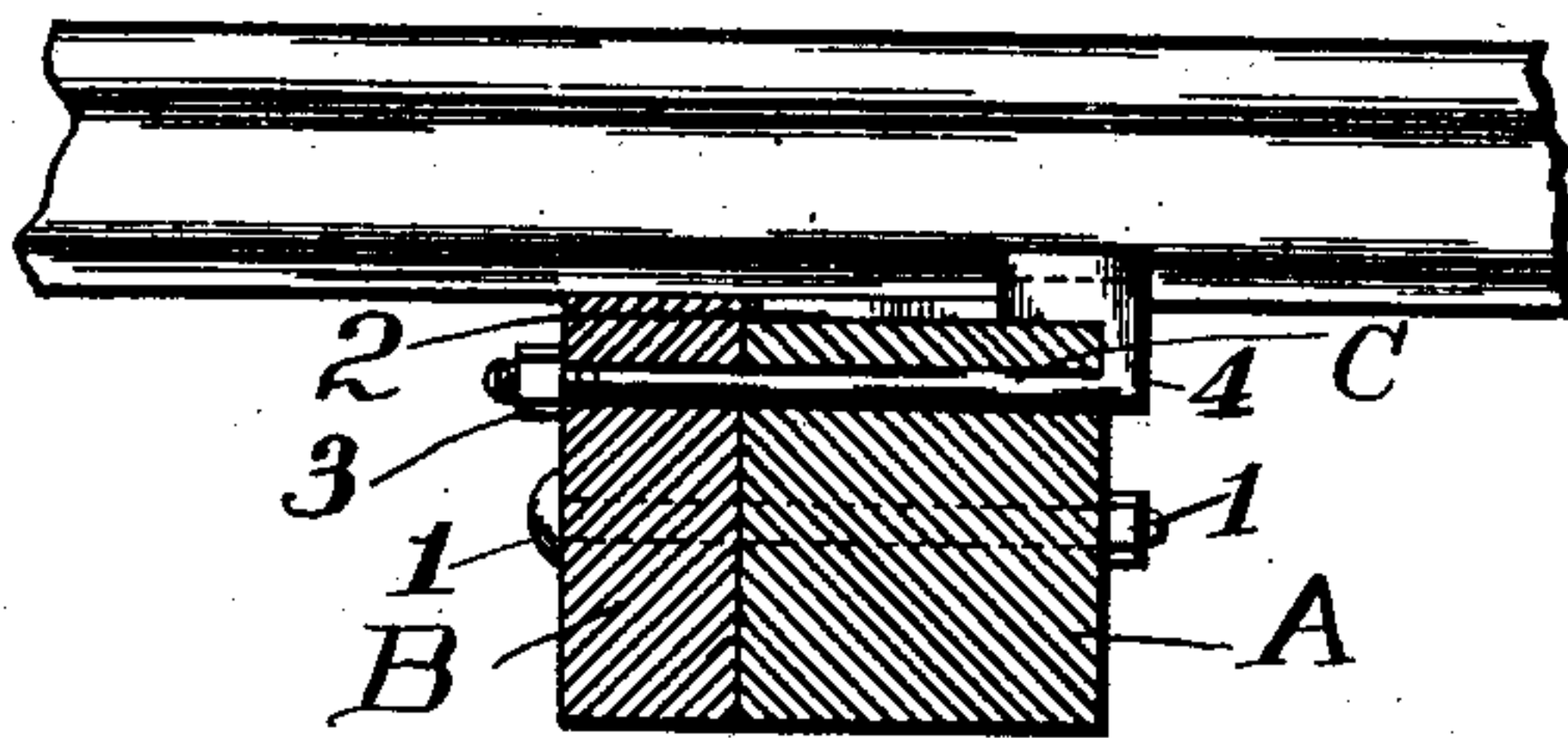
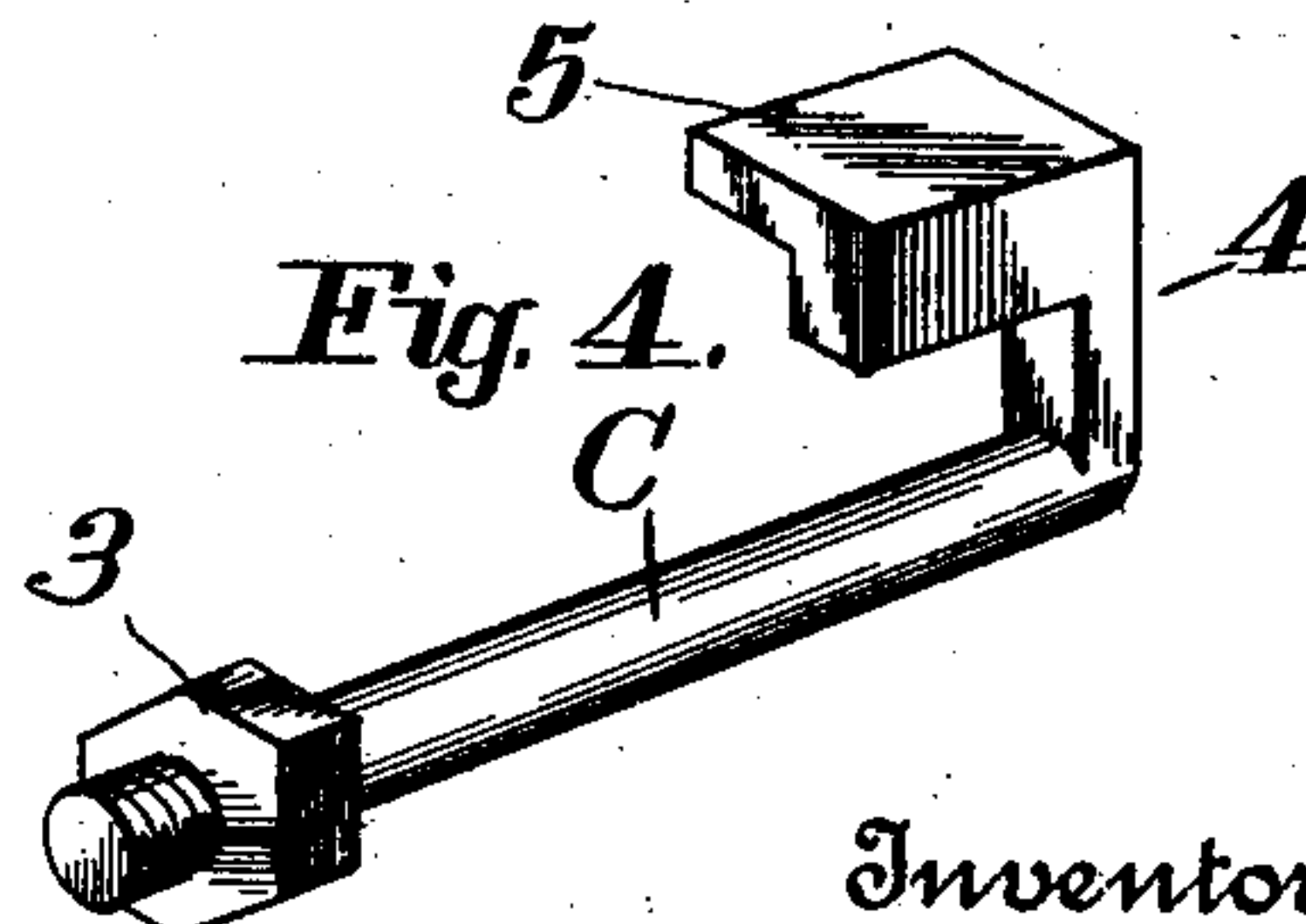
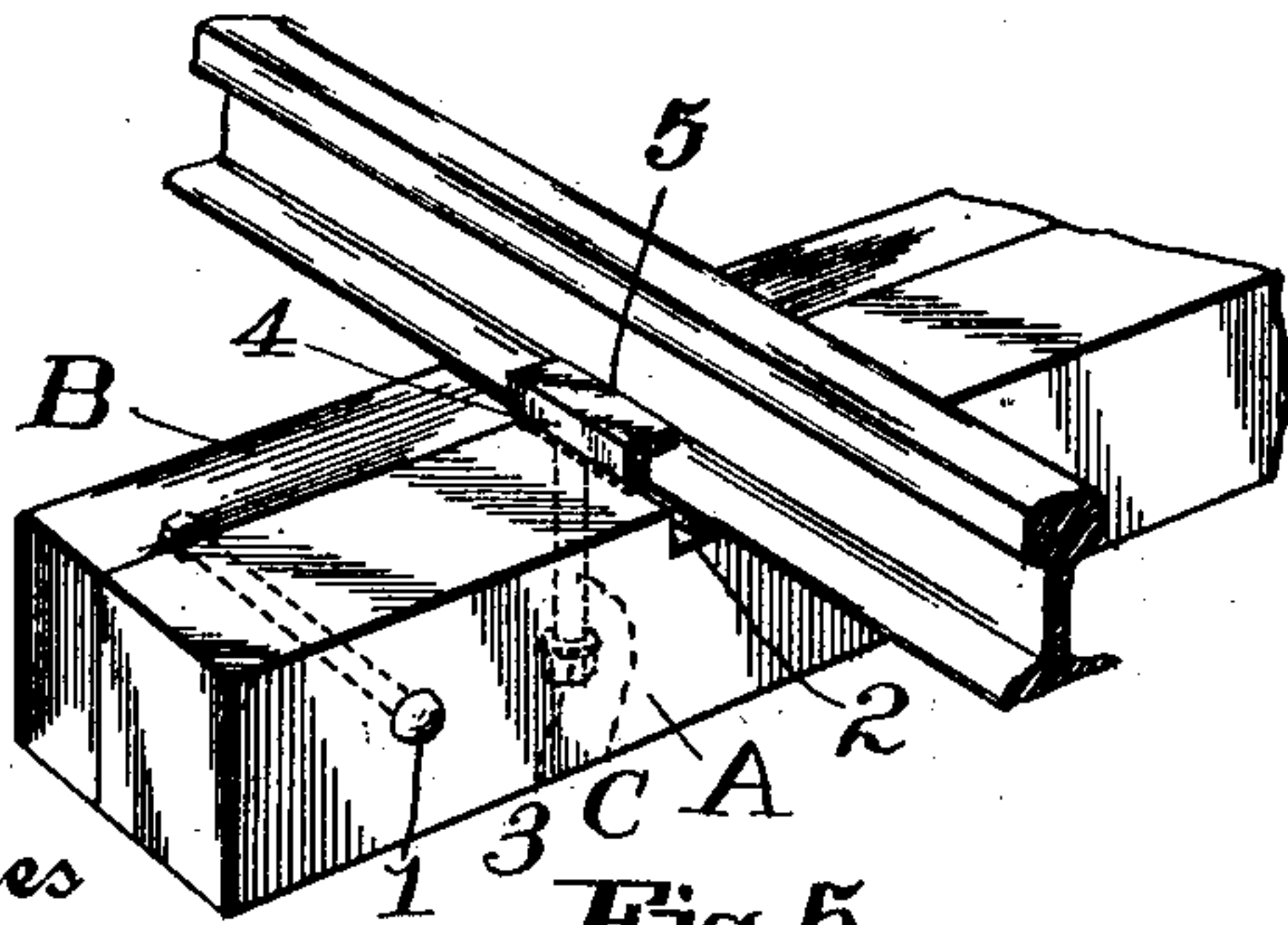
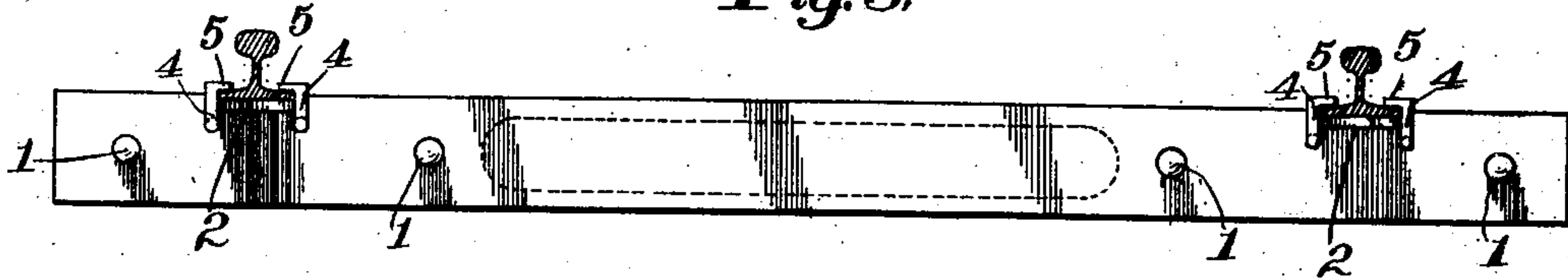


Fig. 3.



Witnesses

Henry L. Bryan
Watts T. Estabrook

Fig. 5.

Inventors

William A. Nichols Esq
by John F. Neff
Clerk of the Court
his Attorney

UNITED STATES PATENT OFFICE.

WILLIAM A. NICHOLS, SR., AND JOHN F. NEFF, OF BELMONT, OHIO.

RAILROAD-TIE.

SPECIFICATION forming part of Letters Patent No. 755,692, dated March 29, 1904.

Application filed August 8, 1903. Serial No. 168,775. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM A. NICHOLS, Sr., and JOHN F. NEFF, citizens of the United States, and residents of Belmont, in the county of Belmont and State of Ohio, have invented a new and useful Improvement in Railroad-Ties, of which the following is a specification.

Our invention relates to an improvement in railroad-ties; and it is a combination of wood and metal so constructed and arranged that the wood employed is reduced to a minimum and at the same time the rails are entirely seated on wood and not at all on the metal portion of the tie, thus affording the required elasticity and preventing rattle and objectionable noise which would otherwise result from a direct contact of two metallic parts.

With these objects in view our invention consists in certain novel features of construction and combinations of parts, which will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a plan view of our improved tie. Fig. 2 is a sectional view on the line 2 2 of Fig. 1. Fig. 3 is a sectional view on the line 3 3 of Fig. 1. Fig. 4 is a detached view of the rail-securing bolt, and Fig. 5 is a modification in which this bolt extends vertically.

A represents the metal portion of the tie, and B is the wooden portion, the two being secured together by bolts or similar means 1 1. The wooden portion constitutes a comparatively small part of the tie—say a third, or it might be even less—and may be made of oak or locust, or even of soft wood treated with a preservative in order to render it lasting. Of course the proportions, as well as the material used, might be varied indefinitely. The metal portion A is provided with transverse grooves 2 2 at points where the rails rest on the tie, and these grooves are adapted to be filled with wooden blocks or wedges, so that the rails rest entirely on wood.

C indicates a clamping-bolt. This is so constructed that the shank extends through a portion of the tie—as, for instance, the metal portion—or, if desired, through the entire tie,

and on the end it is screw-threaded to receive a nut 3, which retains it in place. The head 4 of the bolt is L-shaped, extending around the edge of the tie and over the top, it being placed immediately adjacent to the rail. A flange 5 is formed at the top, which projects over the base of the rail. These bolts have right-and-left flanges and are placed on each side of the rail, so that a flange 5 embraces each edge of the base, retaining the rail securely in position on the tie. This clamping-bolt not only holds the rail, but also helps to hold the wooden and metal parts of the tie together, as well as the wooden wedges in place in the grooves in the metal portion beneath the rail.

Every other tie can be reversed, so that the pressure cannot cause the ties to get out of line.

With a rail thus constructed the wooden portion can be renewed from time to time without disturbing the metal portion by simply removing nuts from the bolt and pulling out the wooden portion, after which a new wooden section may be substituted.

The metal portion may have hollowed-out spaces in the center between the bolts, if desired, and even then when constructed as described, with the wooden strip secured thereto, it will still be as strong as the old-fashioned wooden tie. In this way we get the same amount of strength, while at the same time greatly reducing the amount of timber required in a road-bed, which is the intention of our invention. Also it may be mentioned that the rails are held securely in place, so that they cannot give or slip.

It is evident that slight changes might be resorted to in the form and arrangement of the several parts described without departure from the spirit and scope of our invention, and hence we do not wish to limit ourselves to the exact construction herein set forth; but,

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

1. A railroad-tie composed of wood and metal secured together, the metal portion hav-

ing grooves or depressions at the points where the rails rest on the ties, said grooves or depressions adapted to receive wooden blocks or wedges, whereby the rails rest entirely on wood.

2. The combination with a tie having transverse grooves for the rails, and rails, the bases of which are of less width than the grooves, of a bolt having a flanged head, one flange of which fits in the space formed between the edge of the base and the edge of the groove, and the other flange over the base of the rail whereby a rigid fastening is formed between the rail and tie.

3. The combination with a tie composed of two parts or sections, one section at least grooved transversely, and a rail the bases of which are narrower than the grooves, of an L-shaped bolt, a portion of the head of which enters the space between the edge of the groove and the rail-base, and another portion of which extends over the edge of the base

and the shank extending through the sections of the tie whereby to hold them together.

4. The combination with a tie composed of wood and metal sections, metal sections having grooves or depressions opposite the rails, and adapted to receive wooden blocks or wedges therein, of bolts having L-shaped heads, said bolts extending through and securing the metal and wooden portions of the tie together, and the heads of the bolt overlapping the base of the rails, whereby the latter are held securely on the ties and the wedges or blocks are retained in the grooves or depressions of the metal portion of the rail.

In testimony whereof we have signed this specification in the presence of two subscribing witnesses.

WILLIAM A. NICHOLS, SR.
JOHN F. NEFF.

Witnesses:

FRANCIS HEERMANS,
D. R. PERKINS.