

No. 746,650.

PATENTED DEC. 8, 1903.

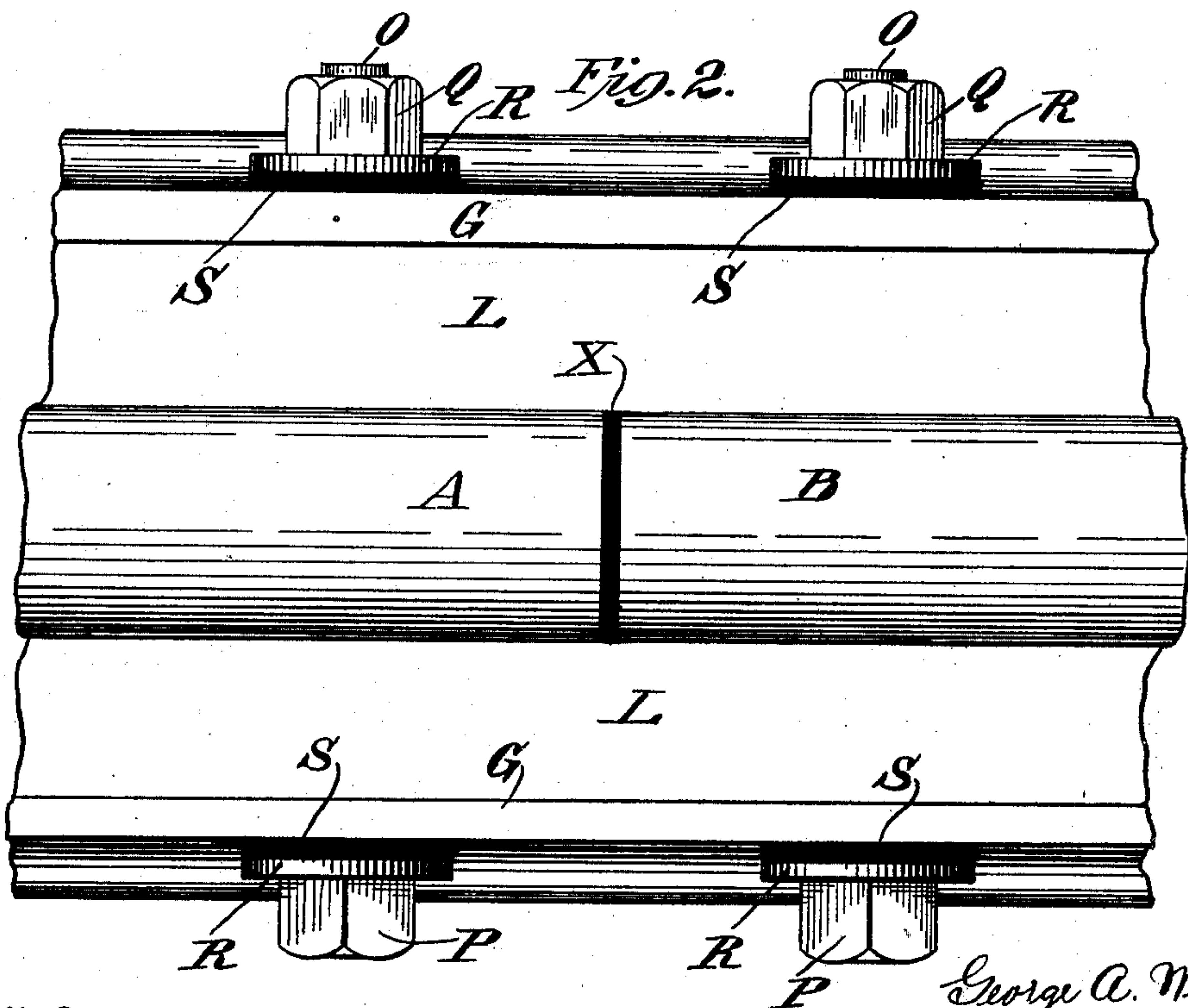
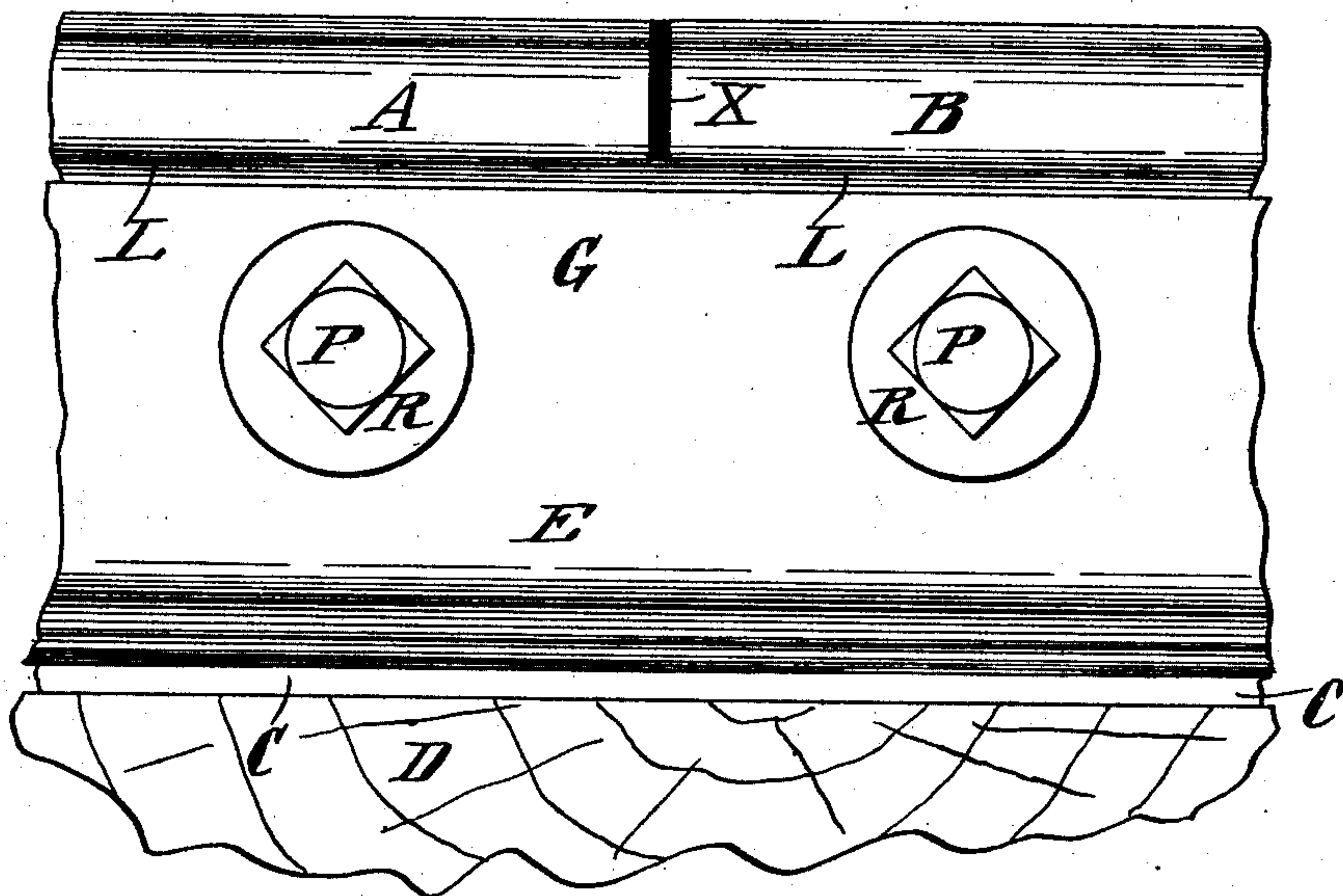
G. A. WEBER.
RAIL JOINT.

APPLICATION FILED AUG. 28, 1903.

NO MODEL.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses
James Mitchell
A. L. O'Brien

George A. Weber
Inventor
By Nicklaus Brown
Regents & Business
attys

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NO MODEL.

2 SHEETS—SHEET 2.

Fig. 3.

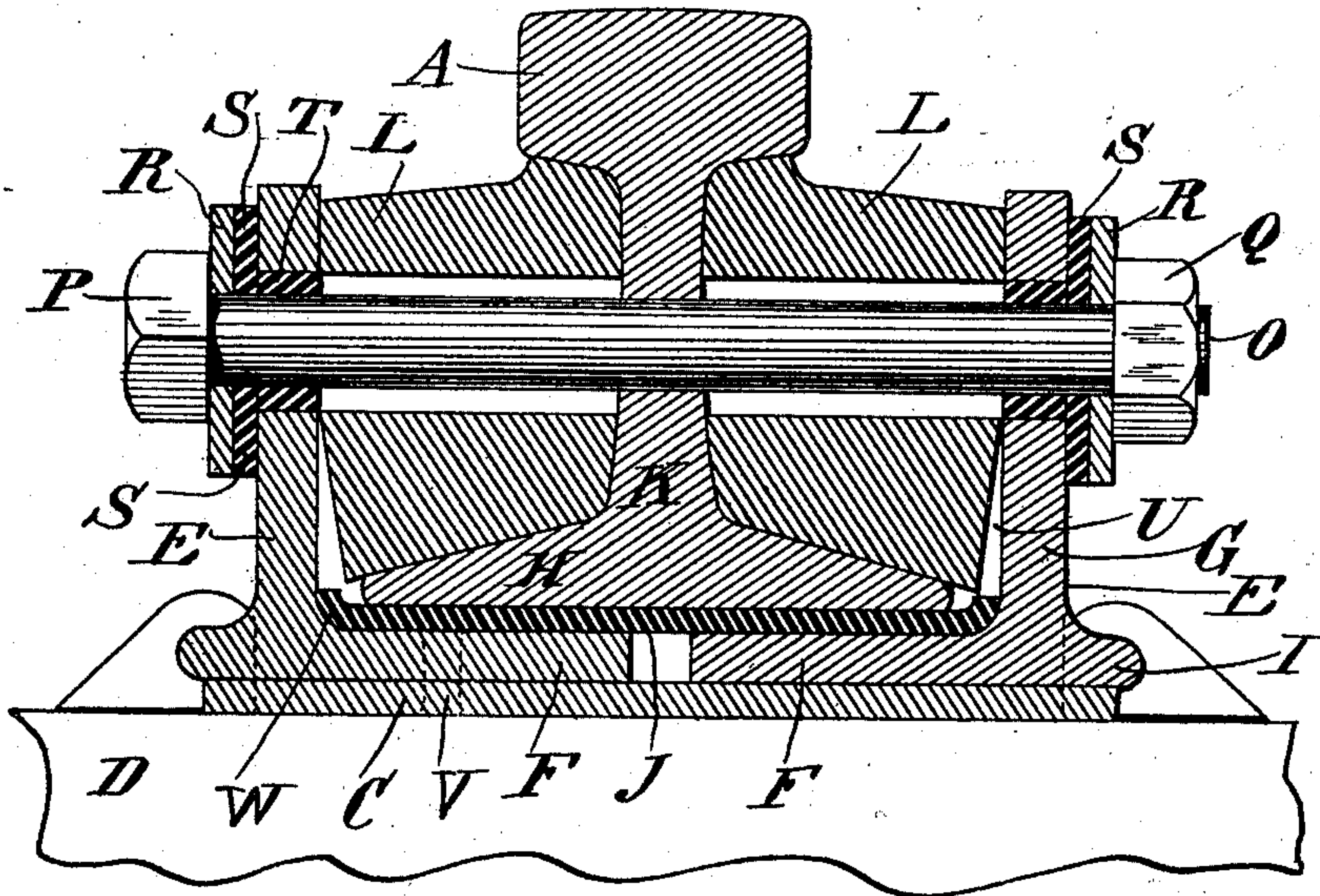
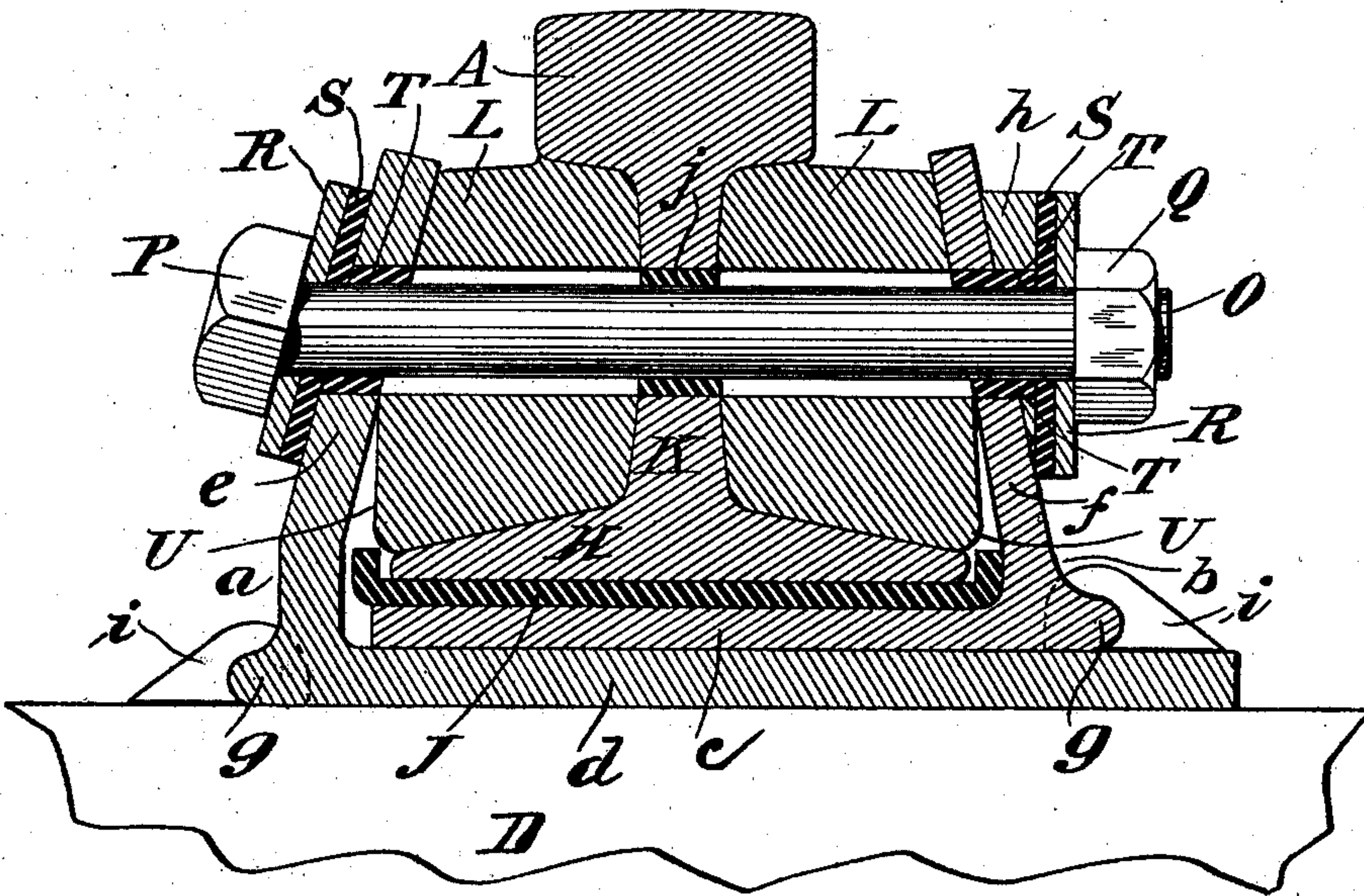


Fig. 4.



Witnesses
Combs
A. L. O'Brien

George A. Weber
Inventor
By Dickman Brown
Rogers & Binney
attys

UNITED STATES PATENT OFFICE.

GEORGE A. WEBER, OF NEW YORK, N. Y., ASSIGNOR TO WEBER RAILWAY JOINT MANUFACTURING COMPANY, OF NEW YORK, N. Y., A CORPORATION OF WEST VIRGINIA.

RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 746,650, dated December 8, 1903.

Original application filed March 18, 1903, Serial No. 148,289. Divided and this application filed August 28, 1903. Serial No. 171,090. (No model.)

To all whom it may concern:

Be it known that I, GEORGE A. WEBER, a citizen of the United States, and a resident of the borough of Manhattan, city, county, and State of New York, have invented certain new and useful Improvements in Rail-Joints, of which the following is a specification, accompanied by drawings.

My invention relates to rail-joints; and its objects are to improve upon the construction of such joints and increase their efficiency, with simplicity of parts.

Further objects of my invention will hereinafter appear; and to these ends my invention consists of a rail-joint for carrying out the above objects, embodying the features of construction, combinations of elements, and arrangement of parts substantially as hereinafter fully described, and claimed in this specification, and shown in the accompanying drawings, in which—

Figure 1 is a side view of a rail-joint embodying my invention. Fig. 2 is a plan view of the same. Fig. 3 is a transverse sectional view, and Fig. 4 is a transverse sectional view of a modification.

I have illustrated my invention in connection with an insulated rail-joint; but I am not to be understood as limiting myself to this form of joint, as my invention is equally applicable to uninsulated joints and may of course be utilized in such connection when desired.

In my copending application, Serial No. 148,289, filed March 18, 1903, of which this application is a division, I have claimed an insulated joint embodying my invention.

Referring to the drawings, A and B represent the ends of adjacent rail-sections, which are connected to each other and insulated by means of my improved joint. In Figs. 1, 2, and 3 a tie-plate C is shown upon the tie D, while the rail-chairs E are supported upon the tie-plate. The chairs consist of the base portions F and the uprights or bolt-plates G, and in this instance the chairs are arranged with their base portions F beneath the bases H of the rails. Each rail-chair is provided

with a fillet or spiking-rib I, and between the bases H of the rails and the bases F of the chairs is placed the insulation J, which may be of any suitable material.

Between the webs K of the rails and the uprights G of the rail-chairs are arranged the blocks L, of insulating material, shown in this instance as blocks of wood, these blocks, as shown, extending across the joint, while suitable bolts O, having the heads P and nuts Q, extend through the parts of the joint and secure the whole together.

Metallic washers R, as shown, are arranged upon the bolts O and beneath the heads P and the nuts Q, while insulating-washers S, of suitable material, are placed between the washers R and the uprights G of the rail-chairs. Insulating-sleeves T are arranged, as usual, over the bolts O to insulate the same from the uprights G of the rail-chairs.

One of the objects of my invention is to obviate the forming of a fulcrum at the bottom of the uprights G and between the upright and the block L when the nuts Q are tightened to tighten up the joint. Suitable means may be provided for carrying out this object; but in this instance I have overcome this difficulty by beveling the blocks L at their lower sides, as shown, the blocks being provided with beveled portions at U, so that they do not bear upon the inside of the lower portions of the uprights G. By thus beveling the blocks all pressure is removed at this point, and an even pressure is obtained all through the blocks L when the joint is tightened up. By beveling the blocks L, as shown, the hug or pressure upon the bases H of the rails is increased when the joint is tightened up. If a fulcrum is permitted to be formed between the lower edges of the blocks L and the inside of the lower portions of the uprights G of the rail-chairs, a distortion of the rail-joint takes place when the same is tightened up, which is avoided by the construction described. It will furthermore be seen that one of the rail-chairs E is secured to the tie-plate C by suitable means, shown as the rivets V, and since the tie-

plate C is secured to the tie by the spikes it will be seen that a firm and secure joint is obtained, and by the construction described when the joint is tightened up the chair E, which is not secured to the tie-plate C, may have movement relatively to the other chair E, which construction I have found to produce better results than those instances in which both chairs are movable relatively to the tie and tie-plate. If desired, the insulating material J beneath the bases H of the rails may be turned upwardly at each end to aid in securing the insulation firmly in position, and insulating material X may also be inserted between the ends of the rails.

In the construction shown in Fig. 4 the rail-chairs *a* and *b*, as shown, are of different sizes and of different thickness of metal, the rail-chair *b* being of lighter material than that of the chair *a*, and the base *c* of the chair *b* is in this instance arranged on top of the base *d* of the chair *a*. One of the chairs, as *a*, is made of thicker material to get a strong base for spiking, while the other chair *b* is made of lighter material, because its function is to brace the parts of the joint. The uprights *e* and *f* of the chairs, as shown, are bent or sprung inwardly, and each chair is provided with the fillet or spiking-rib *g*, as before.

The wooden blocks L, as shown, are beveled at U, and insulating material J is inserted beneath the bases H of the rails.

The bolts O are provided with heads P, in this instance formed at an angle to the shanks of the bolts, while suitable metallic washers R and insulating-washers S are arranged adjacent the heads of the bolts and the nuts Q. Insulating-sleeves T insulate the bolts from the uprights of the rail-chairs, and, as shown, a wedge-shaped metallic block *h* is inserted between the upright *f* of the rail-chair *b* and the insulating-washer S in order to enable the nut Q to be operated. In both instances of my invention suitable spikes *i* secure the joint to the tie, and in Fig. 4 insulating-sleeves *j* are shown to insulate the shanks of the bolts from the webs K of the rails.

Obviously some features of my invention may be used without others, and my invention may be embodied in widely-varying forms.

Therefore, without limiting myself to the construction shown and described nor enumerating equivalents, I claim, and desire to secure by Letters Patent, the following:

1. A rail-joint, comprising the meeting ends of rails supported upon rail-chairs having uprights, blocks arranged between the webs of the rails and the uprights, said blocks being constructed to bear against the uprights at their upper portions without bearing thereon at their lower portions, and bolts for securing the parts of the joint together, whereby the formation of a fulcrum is avoided at the lower portions of the uprights between the uprights and the blocks, for substantially the purposes set forth.

2. A rail-joint, comprising the meeting ends of rails supported upon rail-chairs having uprights, blocks arranged between the webs of the rails and the uprights, said blocks being beveled at their lower edges on their faces bearing against the uprights, and bolts for securing the parts of the joint together, whereby the formation of a fulcrum is avoided at the lower portions of the uprights between the uprights and the blocks, for substantially the purposes set forth.

3. A rail-joint, comprising the meeting ends of rails supported upon rail-chairs of different weights of material, the base of the chair of lighter material being arranged upon the base of the chair of heavier material, blocks arranged between the webs of the rails and the uprights of the rail-chairs, bolts for securing the parts of the joint together, and spikes passing through the base of the chair of heavier material for securing the joint to the ties, for substantially the purposes set forth.

4. A rail-joint, comprising the meeting ends of rails supported upon rail-chairs of different weights of material, the base of the chair of lighter material being arranged upon the base of the chair of heavier material, blocks arranged between the webs of the rails and the uprights of the rail-chairs, said blocks being beveled at their lower edges on their faces bearing against the uprights, and bolts for securing the parts of the joint together, whereby the formation of a fulcrum is avoided at the lower portions of the uprights between the uprights and the blocks, for substantially the purposes set forth.

5. A rail-joint, comprising the meeting ends of rails supported upon rail-chairs of different weights of material, the base of the chair of lighter material being arranged upon the base of the chair of heavier material, and the uprights of the rail-chairs being bent inwardly toward each other, blocks arranged between the webs of the rails and the uprights of the rail-chairs, bolts for securing the parts of the joint together, the heads of the bolts being formed at an angle to the shanks to conform to the angle of the upright of one chair, wedge-shaped washers to afford provision for tightening the nuts of the bolts, and spikes passing through the base of the chair of heavier material for securing the joint to the ties, for substantially the purposes set forth.

6. A rail-joint, comprising the meeting ends of rails supported upon rail-chairs of different weights of material, the base of one chair being arranged upon the base of the other chair, blocks arranged between the webs of the rails and the uprights of the rail-chairs, bolts for securing the parts of the joint together, and spikes passing through the base of the chair of heavier material for securing the joint to the ties, for substantially the purposes set forth.

7. A rail-joint, comprising the meeting ends

of rails supported upon rail-chairs of different weights of material, the base of one chair being arranged upon the base of the other chair, blocks arranged between the webs of the rails and the uprights of the rail-chairs, said blocks being beveled at their lower edges on their faces bearing against the uprights, and bolts for securing the parts of the joint together, whereby the formation of a fulcrum is avoided at the lower portions of the uprights between the uprights and the blocks, for substantially the purposes set forth.

8. A rail-joint, comprising the meeting ends of rails supported upon rail-chairs of different weights of material, the base of one chair being arranged upon the base of the other chair, and the uprights of the rail-chairs being bent at an angle to the vertical, blocks arranged between the webs of the rails and the uprights of the rail-chairs, bolts for securing the parts of the joint together, the heads of the bolts being formed at an angle to the shanks to conform to the angle of the upright of one chair, wedge-shaped washers to afford provision for tightening the nuts of the bolts, and spikes passing through the base of the chair of heavier material for securing the joint to the ties, for substantially the purposes set forth.

9. A rail-joint, comprising the meeting ends of rails supported upon rail-chairs of different weights of material, the base of one chair

being arranged upon the base of the other chair, and the base of the chair of heavier material projecting beyond that of the other chair, blocks arranged between the webs of the rails and the uprights of the rail-chairs, bolts for securing the parts of the joint together, and spikes passing through the projecting portion of the base of the chair of heavier material for securing the joint to the ties, for substantially the purposes set forth.

10. A rail-joint, comprising the meeting ends of rails supported upon rail-chairs of different weights of material, the base of one chair being arranged upon the base of the other chair, and the bases of the chairs having substantially parallel upper and lower surfaces as contradistinguished from beveled surfaces, blocks arranged between the webs of the rails and the uprights of the rail-chairs, bolts for securing the parts of the joint together, and spikes passing through the base of the chair of heavier material for securing the joint to the tie, for substantially the purposes set forth.

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

GEORGE A. WEBER.

Witnesses:

E. VAN ZANDT,
A. L. O'BRIEN.