

No. 756,443.

PATENTED APR. 5, 1904.

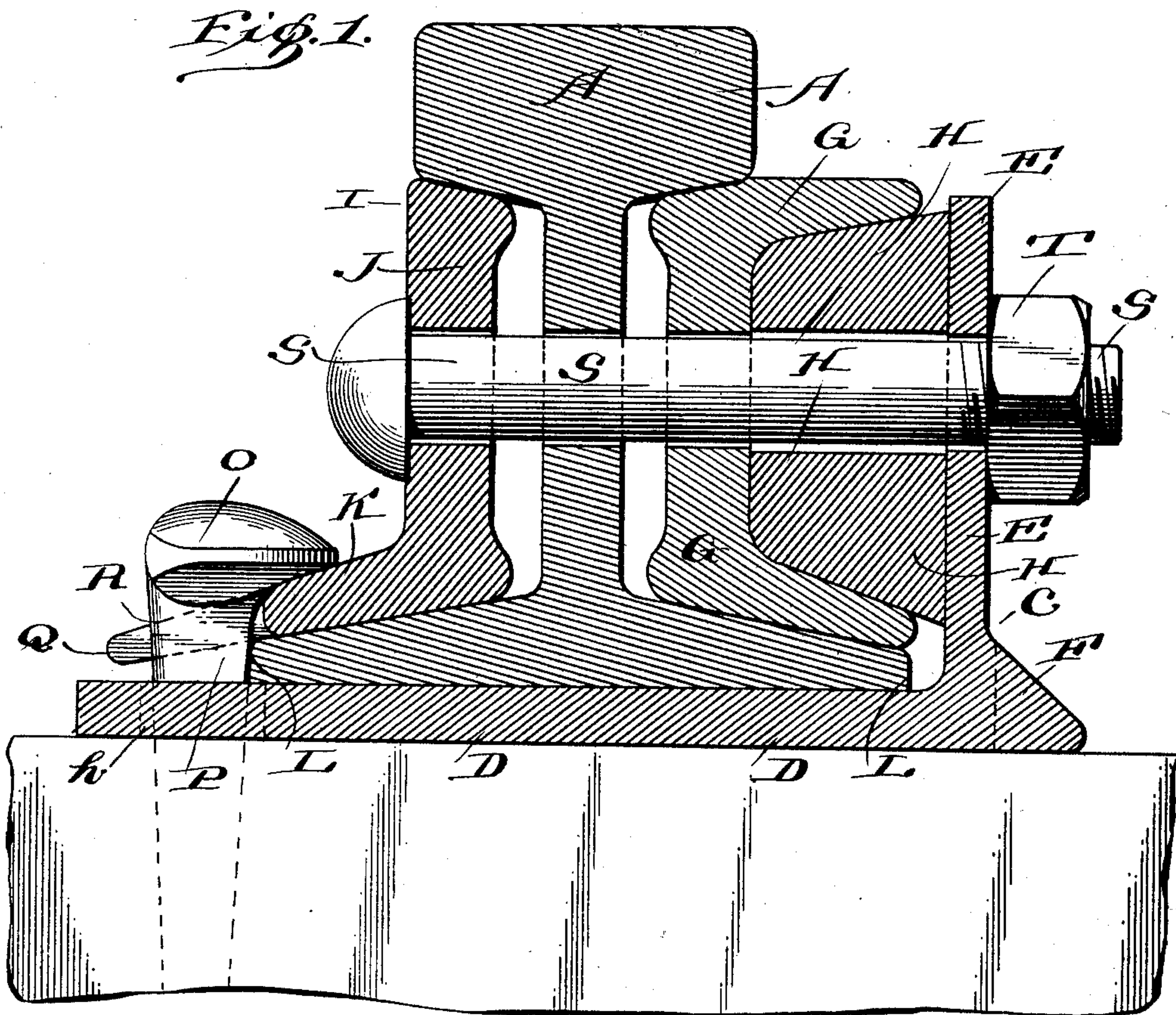
G. A. WEBER.

RAIL JOINT.

APPLICATION FILED DEC. 28, 1903.

NO MODEL.

5 SHEETS--SHEET 1.



21 Dnnesses
C. Smith
A. L. O'Brien

Inventor
George A. Weber
By William Brown
Rogers & Company

No. 756,443.

PATENTED APR. 5, 1904.

G. A. WEBER.

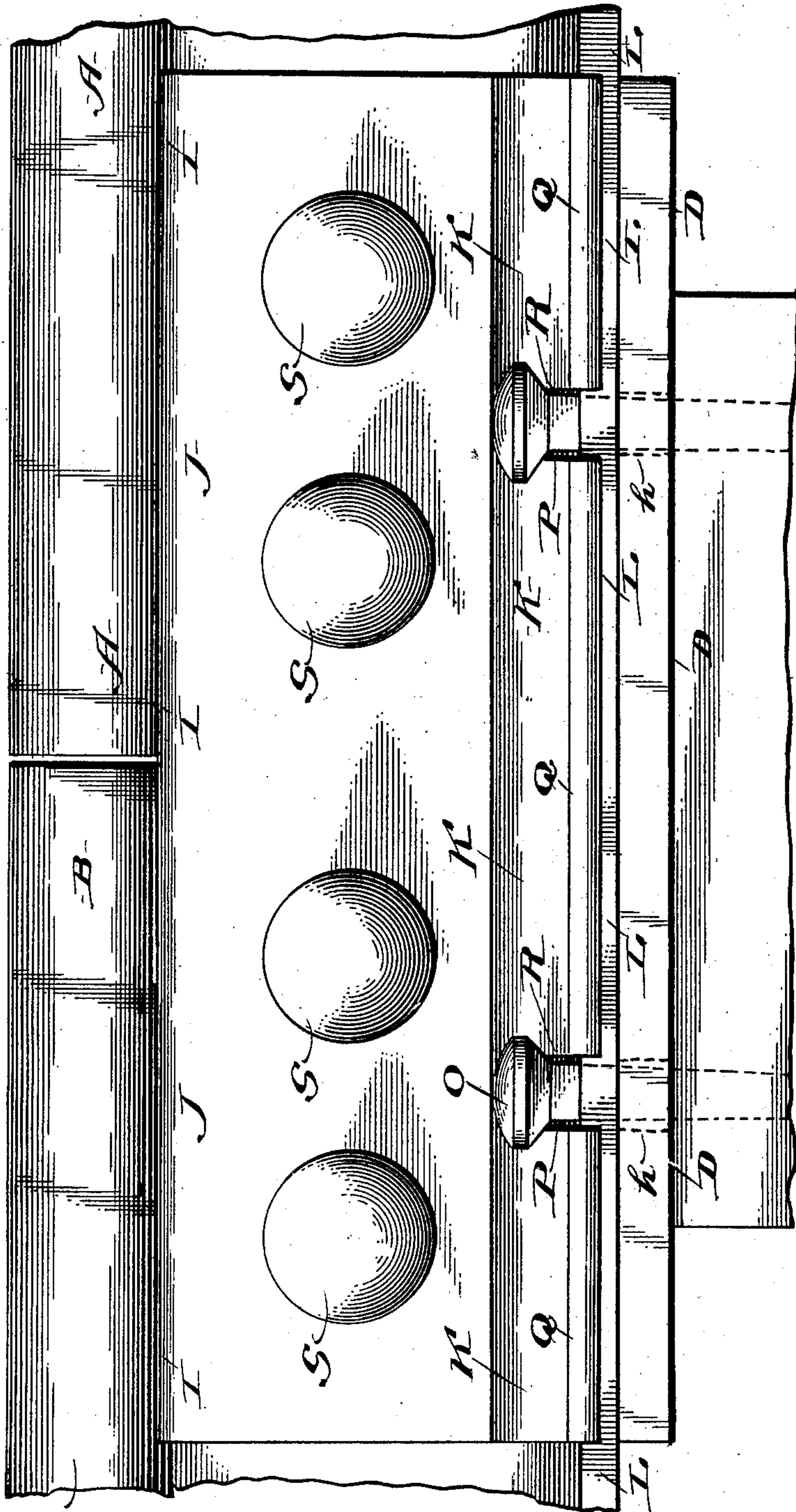
RAIL JOINT.

APPLICATION FILED DEC. 28, 1903.

NO MODEL.

5 SHEETS—SHEET 2.

Fig. 2.



Witness
Comptroller
A. L. O'Brien

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

No. 756,443.

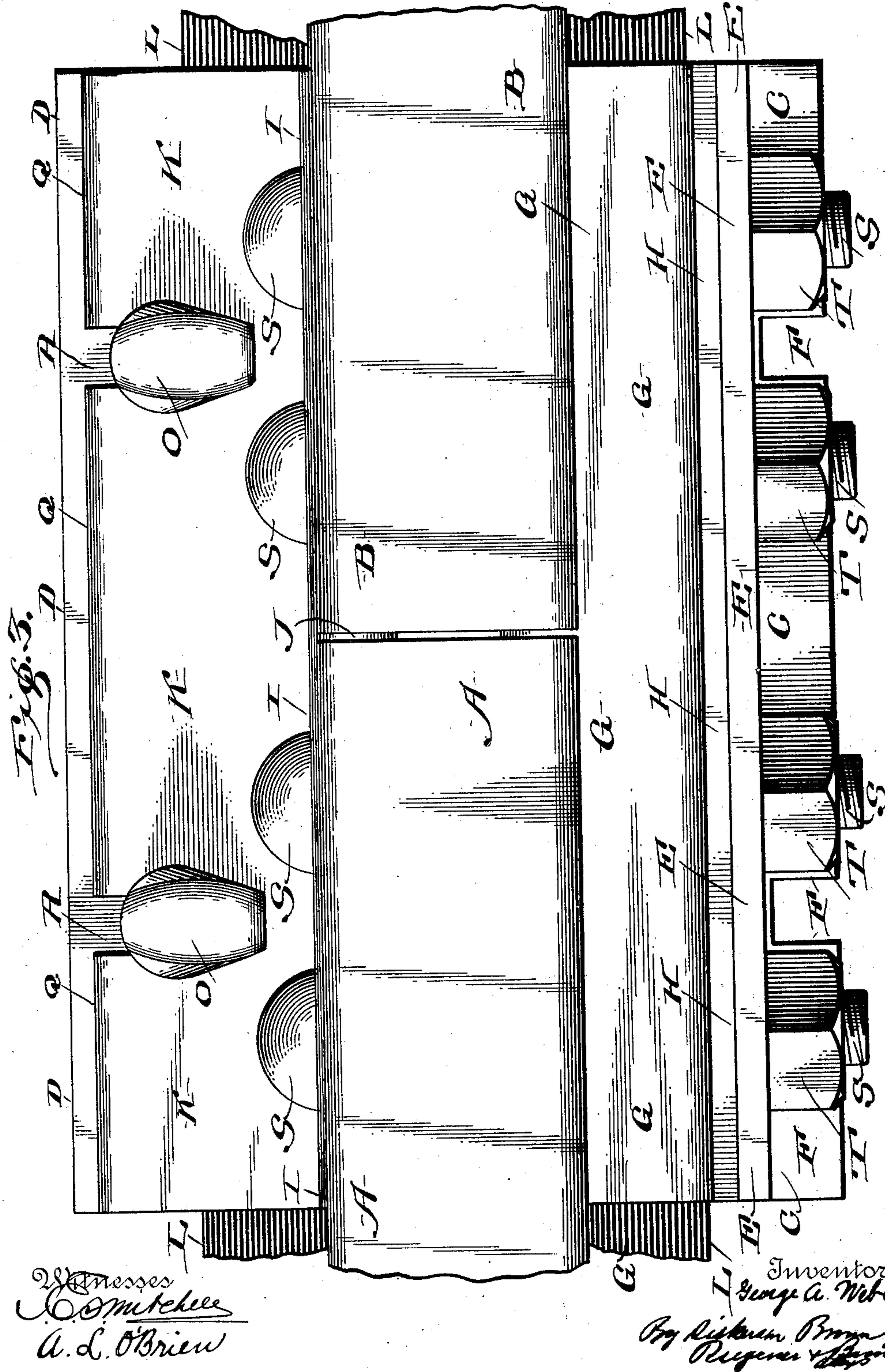
PATENTED APR. 5, 1904.

G. A. WEBER.
RAIL JOINT.

APPLICATION FILED DEC. 28, 1903.

NO MODEL.

5 SHEETS—SHEET 3.



No. 756,443.

PATENTED APR. 5, 1904.

G. A. WEBER.
RAIL JOINT.

APPLICATION FILED DEC. 28, 1903.

NO MODEL.

5 SHEETS—SHEET 4.

Fig. 4.

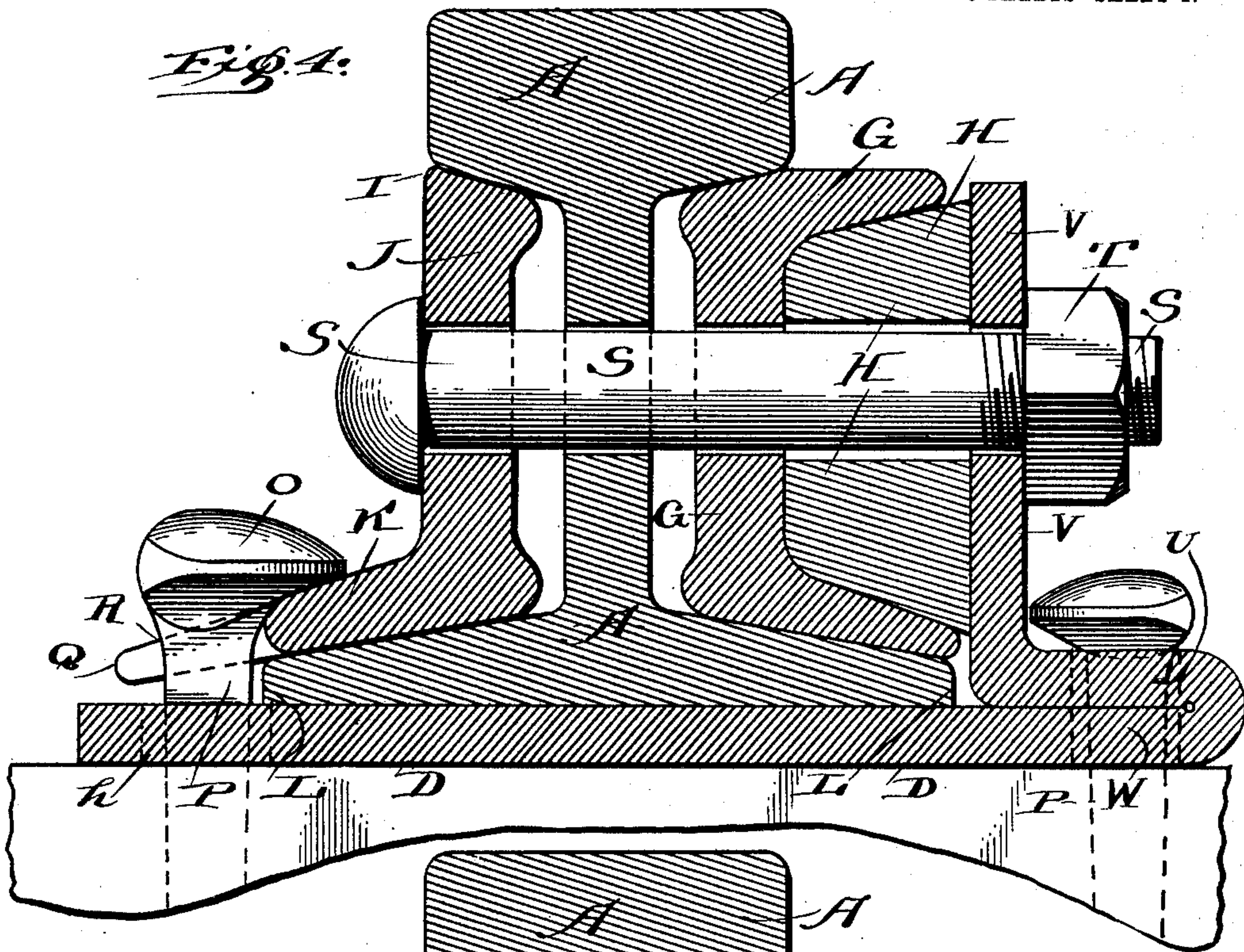
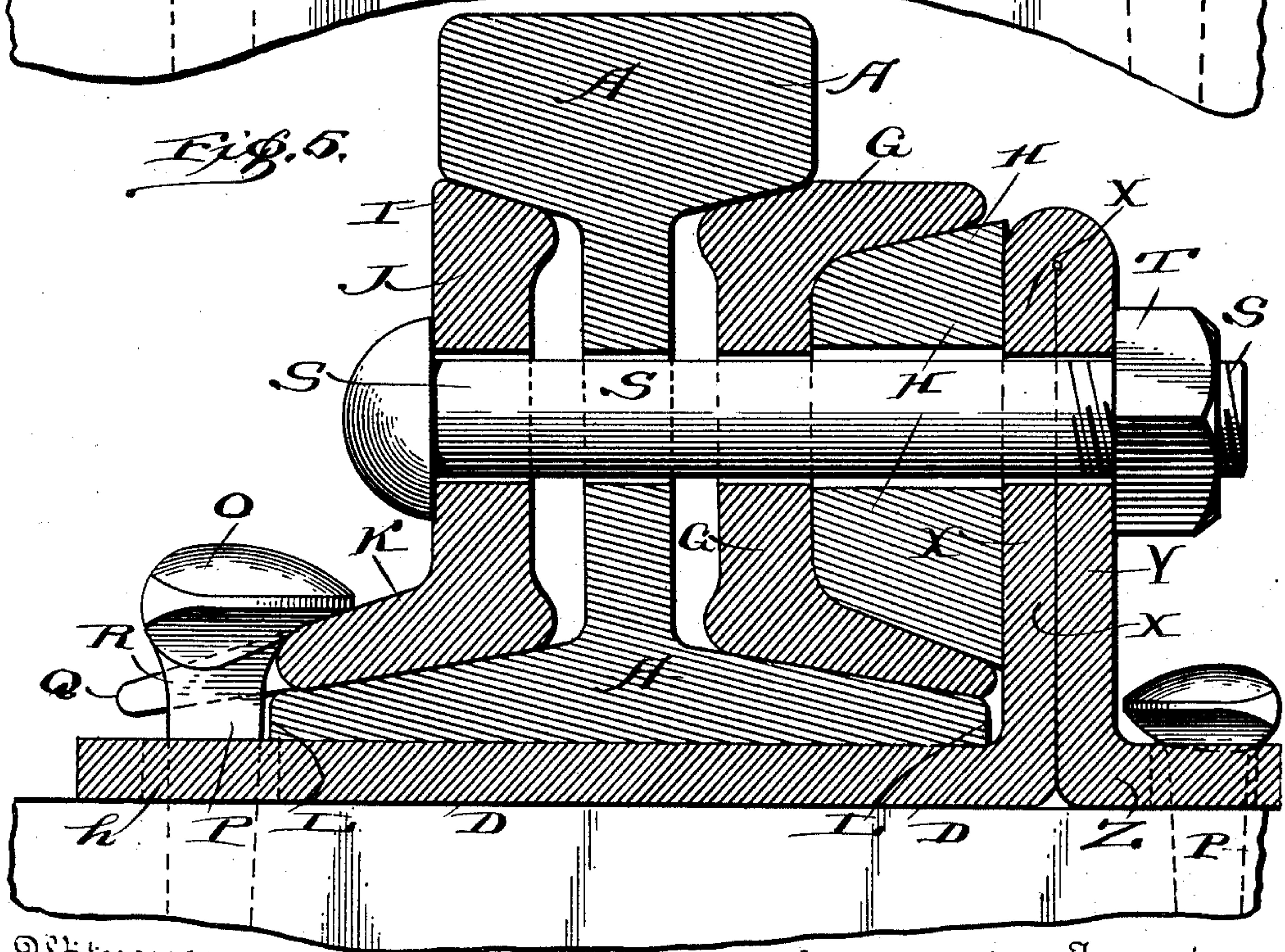


Fig. 5.



Witnesses
Comtee
A. L. O'Brien

Inventor
George A. Weber
By *Richard Brown*
Attorney

No. 756,443.

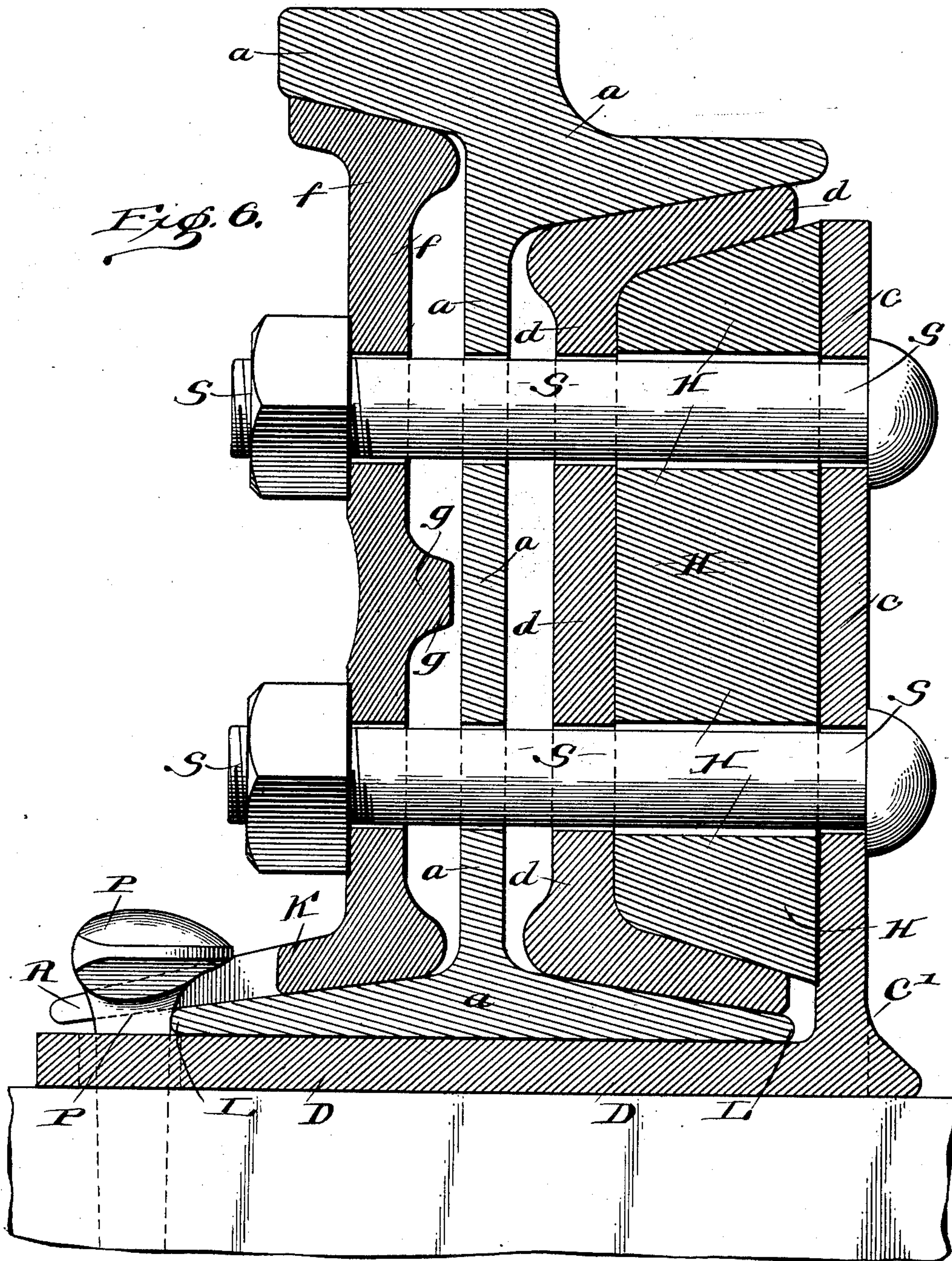
PATENTED APR. 5, 1904.

G. A. WEBER.
RAIL JOINT.

APPLICATION FILED DEC. 28, 1903.

NO MODEL.

5 SHEETS—SHEET 5.



Witnesses
Comitchee
A. L. O'Brien

Inventor
George A. Weber
By Dickerson Brown
Rogers & Kimball atty

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. 756,443, dated April 5, 1904.

Application filed December 28, 1903. Serial No. 186,838. (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.

This invention relates to rail-joints; and its objects are to improve upon the construction and efficiency of such joints and enable the fish-plates or angle-bars to be held more firmly in position and prevent creeping of said plates or bars.

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

Figure 1 is a transverse sectional view of a rail-joint embodying the invention. Fig. 2 is a side elevation of the same. Fig. 3 is a plan view of the joint. Figs. 4 and 5 are transverse sectional views of a joint having different forms of angle-chairs. Fig. 6 is a transverse sectional view of a girder-joint.

In the drawings the invention is shown applied to different forms of the Weber standard rail-joint; but the invention is not to be understood as limited in its application to joints of this particular character, for the invention may be used in any connection where it is found suitable. The figures well illustrate the principles of the invention, and in the drawings A and B represent the meeting ends of rails, and in Figs. 1, 2, and 3 C is a rail-chair having a base D, an upright E, and a nose or spiking-rib F. As shown, the rails A and B rest upon the base D of the chair, while between the webs of the rails and the upright of the chair is arranged a channel-iron G and a filling-block H, of wood or other suitable material. At the other side of the joint is arranged the angle-iron I, having the

upright portion J and the flange portion K extending along the flange of the base of the rail. Hitherto the flange portion K of the angle-iron has extended only to substantially the inner edge L of the flange of the base of the rail, and the heads O of the spikes P afford means for holding the angle-iron down upon the rail; but no means have been provided whereby the spikes P may hold the angle-iron from longitudinal movement or creeping. According to this invention instead of stopping the flange portion K of the angle-iron at the inner edge of the flange of the base of the rail it is extended, as shown at Q, beyond the inner edge of the flange of the base of the rail, and slots R are provided in said extended portion Q for the spikes P, so that the angle-iron I is held firmly in position and cannot creep. The different parts of the joint are held securely in position by means of suitable bolts S, having nuts T, said bolts S passing through the upright of the chair, the webs of the rails, the channel and angle irons, and the filling-block H.

In Fig. 4 a standard joint is shown, having a chair provided with a base D and an inwardly-turned portion U, having an upright V extending therefrom. The inwardly-turned portion U extends substantially parallel to the base D for a short distance, and said portion and the base D are provided with the apertures W for the spikes P.

In Fig. 5 the angle-chair comprises a base D and an upright formed of a double thickness of metal, as shown, the metal of the chair being bent upwardly at X and downwardly at Y and then outwardly at Z, with spiking-holes in the outwardly-bent portion Z for the spikes P. Rail-joints having shoe-angles of the forms shown in Figs. 4 and 5 are strong, compact, and efficient, and, as shown, are provided with increased spiking facilities. The portions of the double thickness in Figs. 4 and 5 strengthen the chair materially.

In Fig. 6 a girder-joint is shown. As shown in this figure, the rail has a high web a, and there are two rows of bolts S for securing the channel and angle irons, the packing

H, and the rail-chair C' together. In this form of rail-joint the rail-chair is constructed substantially like the chair shown in Fig. 1, except that the upright *c* is of sufficient height to afford provision for securing two rows of bolts S therethrough. The channel-iron *d* is of sufficient height to reach between the head and base of the rail at one side, while the angle-iron *f* is accommodated to the head and base of the rails at the other side of the webs and is provided with a longitudinally-extending strengthening-rib *g*. The angle-iron *f* is provided with a base or flange portion K, extending beyond the edge L of the base of the rail and provided with slots R for the spikes P. In all of the figures the slots R in the base or flange portions K of the angle-irons are adapted to coöperate with the spiking-holes *h* in the base of the chair. In other words, the spiking-slots R, which, if desired, may be holes instead of slots, are spaced to register with and fall substantially over the spiking-holes *h* in the bases D of the chairs. The spikes P then pass through the slots or holes R in the hole *h*, thereby firmly securing the angle-irons and the chairs to the ties. The forms of shoe-angles shown in Figs. 4 and 5 may of course be used in the girder-joint illustrated in Fig. 6. These modified forms of shoe-angles are particularly desirable in girder-joints, because owing to the great height of the joint a very strong upright is required for the shoe-angle.

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

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

1. A rail-joint, comprising the meeting ends of rails, a rail-supporting base-plate, and means for maintaining said rails in surface and alinement, comprising in part, an angle-iron having an upright extending along the webs of the rails, and a base or flange overlapping the edges of the bases of the rails, in contradistinction to a flange extending around and underneath the rail-bases, said flange being provided with spiking-apertures in the overlapping portion, and spikes for holding said angle-iron in position, for substantially the purposes set forth.

2. A rail-joint, comprising the meeting ends of rails, a shoe-angle, channel and angle irons and packing material, with bolts for holding

the parts of the joint together, said angle-iron being provided with a flange or base portion projecting beyond the edges of the bases of the rails and provided with spiking-apertures therein, with spikes for maintaining the angle-iron in position, for substantially the purposes set forth.

3. A rail-joint, comprising the meeting ends of rails, a rail-chair, fish-plates and packing material, and bolts for securing the parts of the joint together, one of said fish-plates being provided with spiking-apertures, and spikes for holding said plate in position, for substantially the purposes set forth.

4. A rail-joint, comprising the meeting ends of rails, a rail-chair comprising a base and an upright, fish-plates, and bolts for securing the parts of the joint together, one of said fish-plates being provided with spiking-apertures adapted to coöperate with spiking-apertures in the base of the angle-chair, and spikes passing through said coöperating apertures, for substantially the purposes set forth.

5. A rail-joint, comprising the meeting ends of rails, a rail-chair having a base and a strengthening portion of double thickness, plates for holding the rails in surface and alinement, one of said plates being provided with spiking-apertures, and spikes for said apertures, for substantially the purposes set forth.

6. A rail-joint, comprising the meeting ends of rails, a rail-chair having a base and an upright portion of double thickness with an outwardly-turned portion extending therefrom, plates for maintaining the rails in surface and alinement, one of said plates being provided with spiking-apertures, and spikes for said apertures, for substantially the purposes set forth.

7. A girder-rail joint, comprising the meeting ends of rails, a rail-chair having a base and an upright, plates for holding the rails in surface and alinement, two rows of bolts for holding the parts of the joint together, one of said plates being provided with spiking-apertures, and spikes for said apertures, 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:

A. L. O'BRIEN,
OLIN A. FOSTER.