

(No Model.)

2 Sheets—Sheet 1.

S. STEWART.
RAILWAY RAIL JOINT.

No. 317,037.

Patented May 5, 1885.

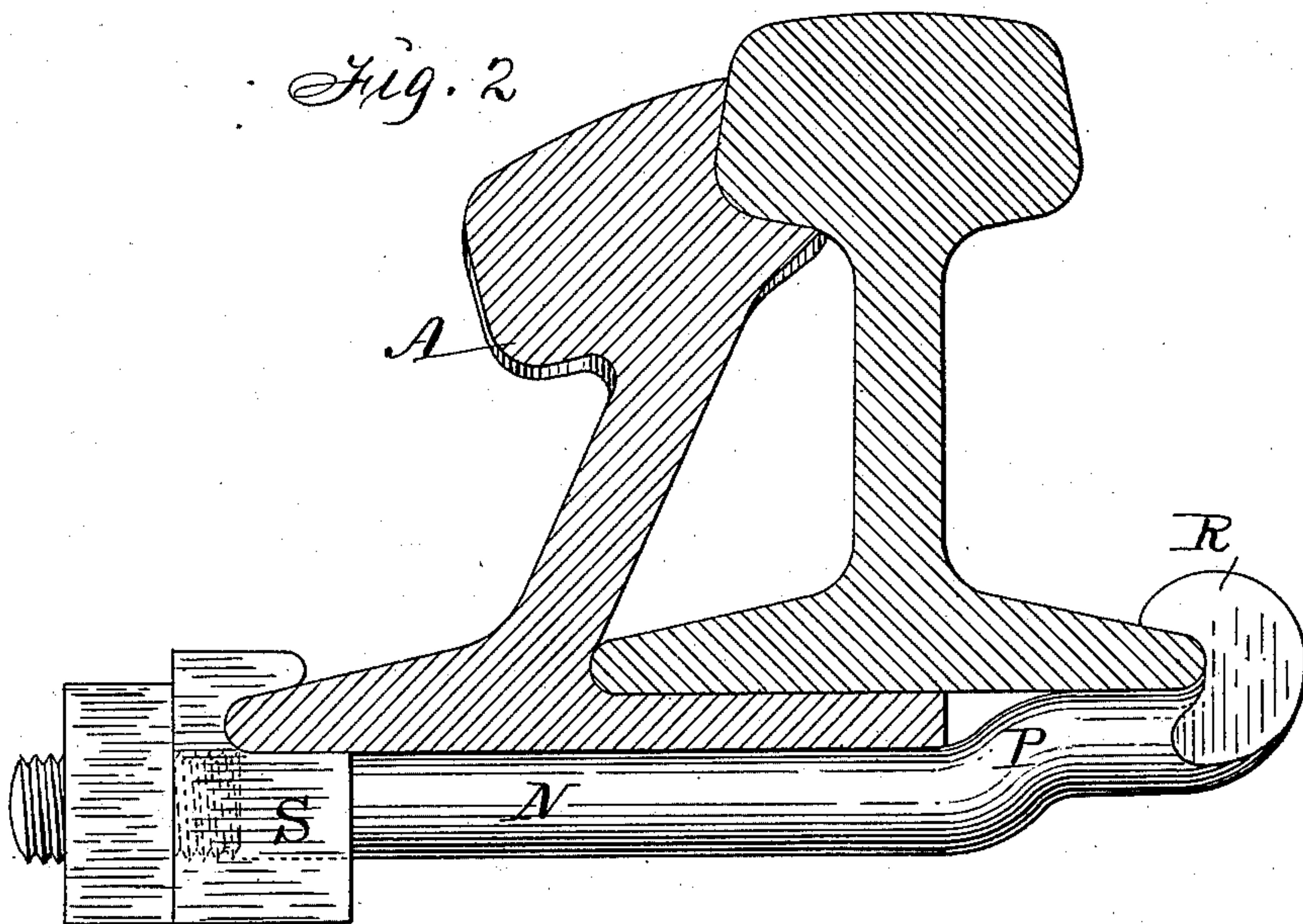
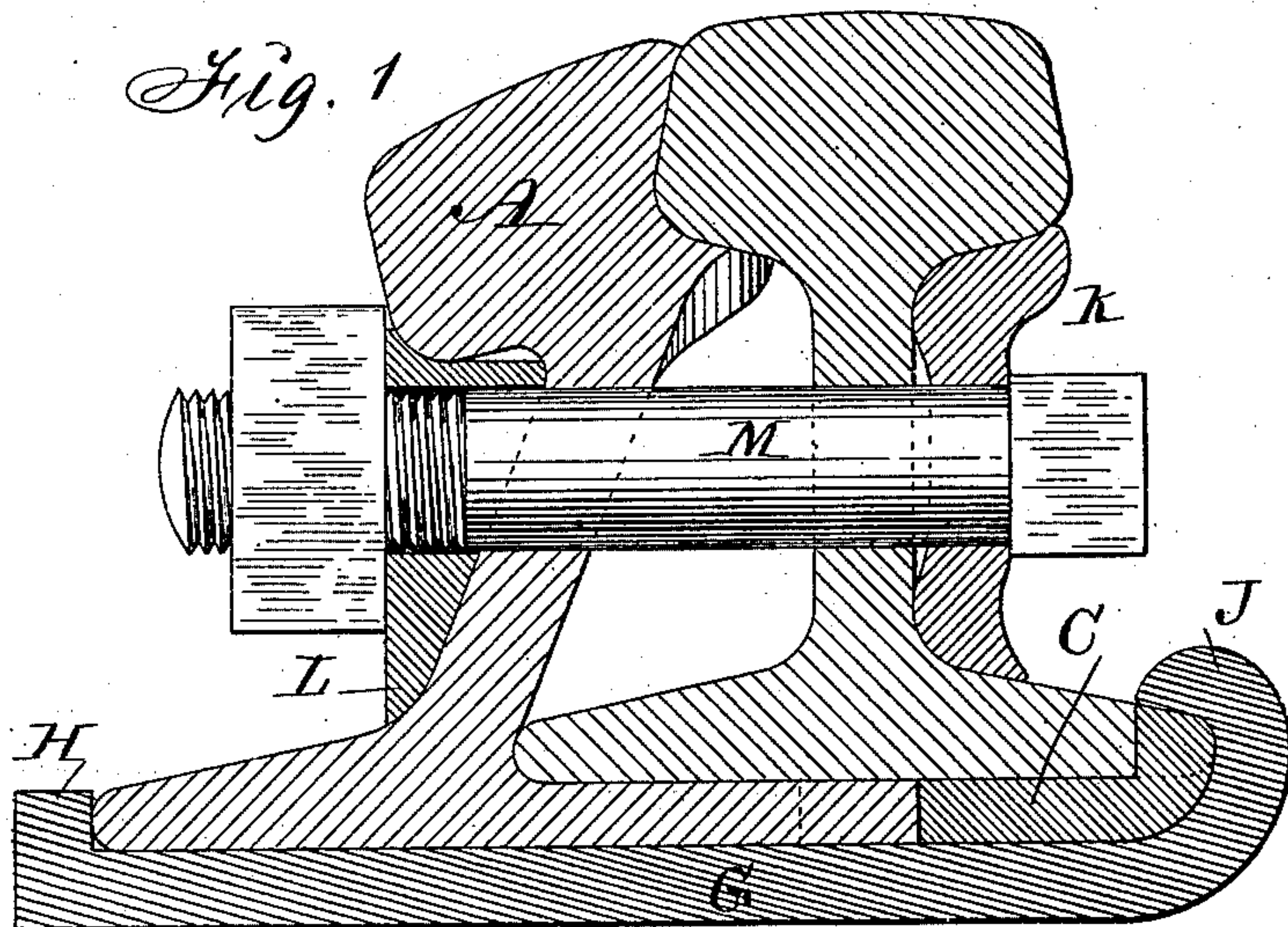
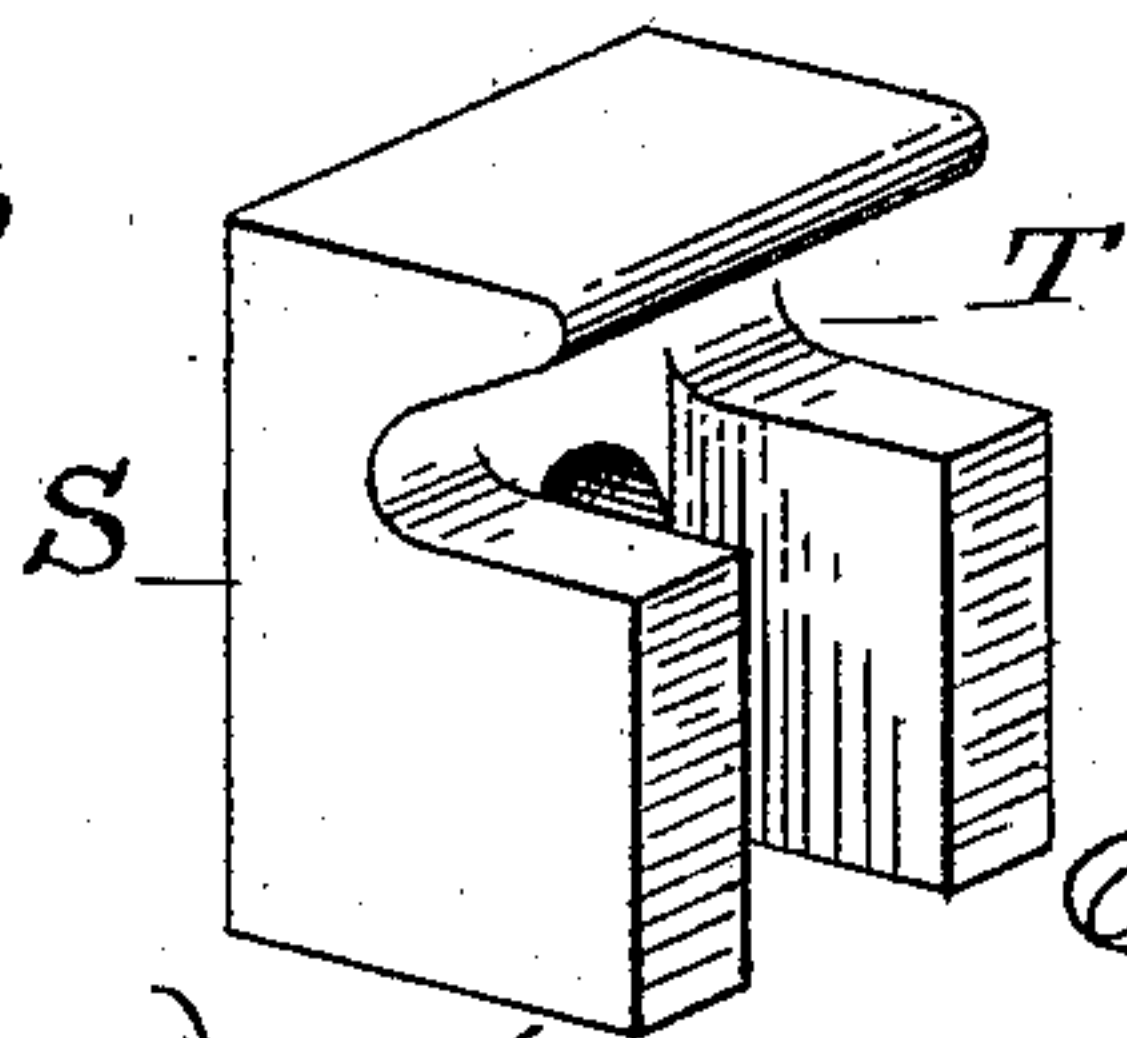


Fig. 3



Witnesses:
Lem Stanton

Inventor:
Shau Stewart,

By Thomas G. Orwig, Atty.

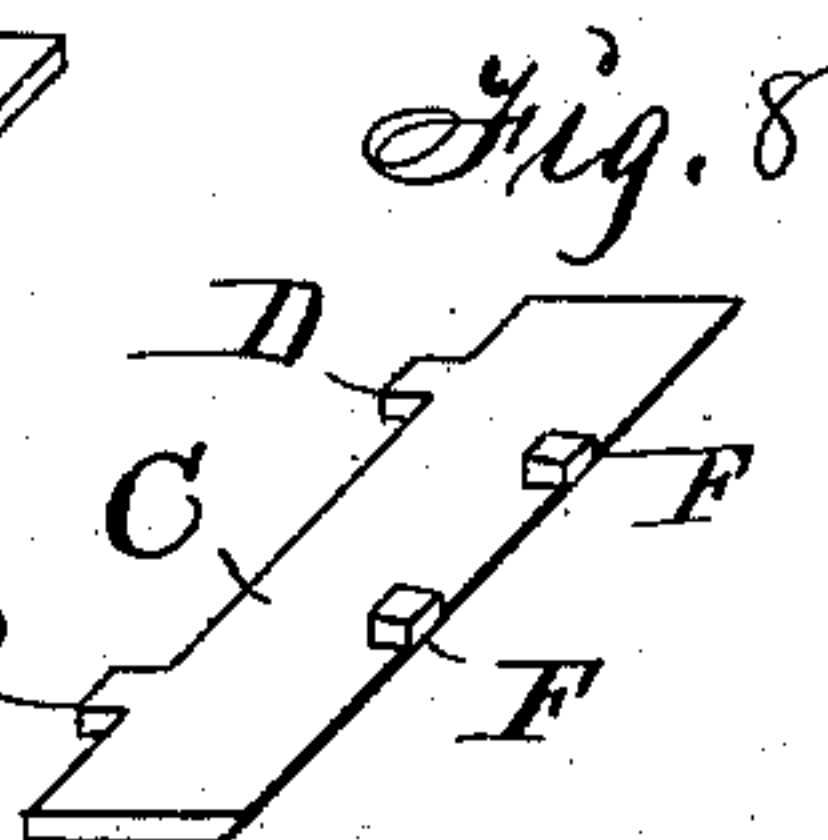
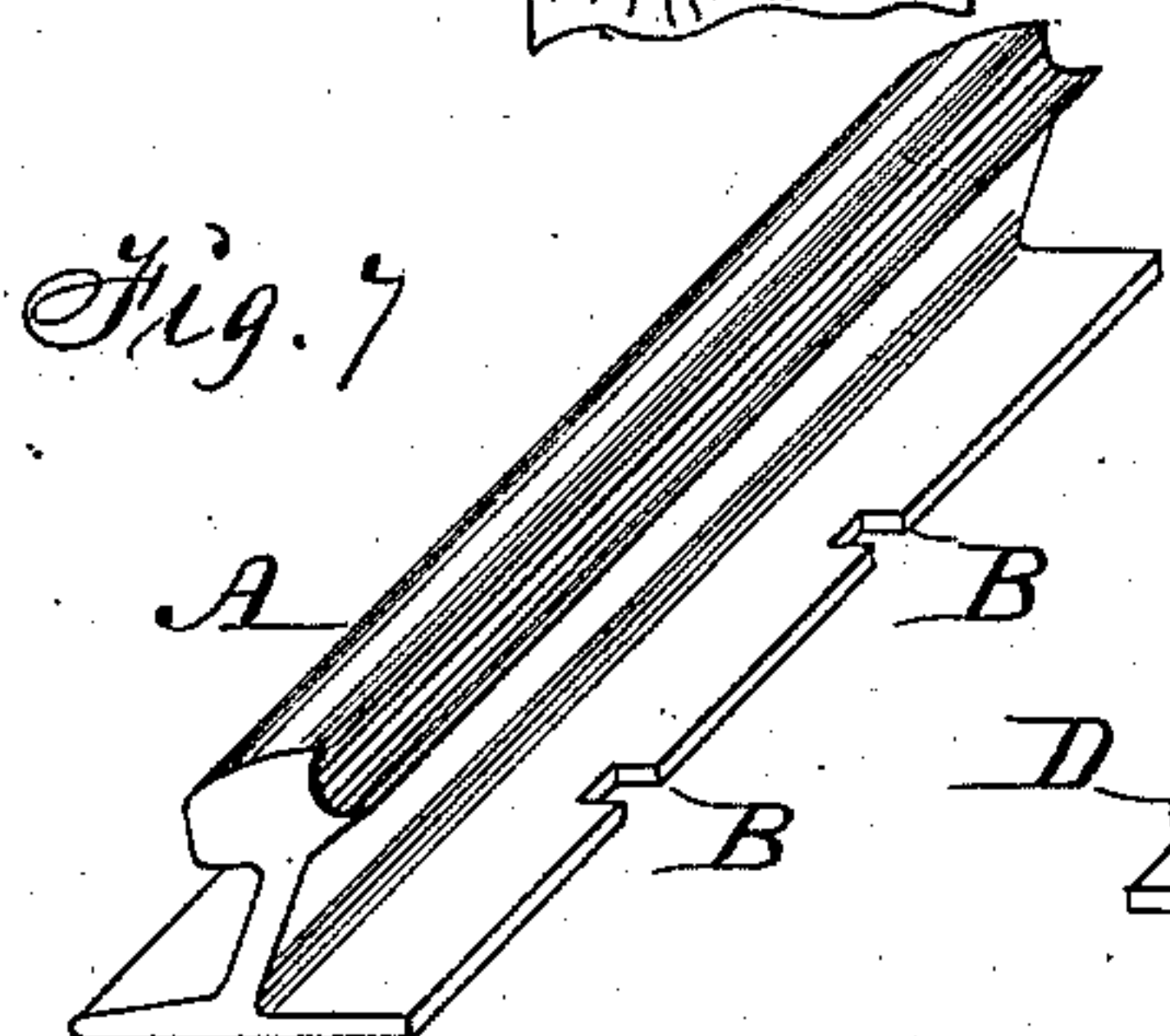
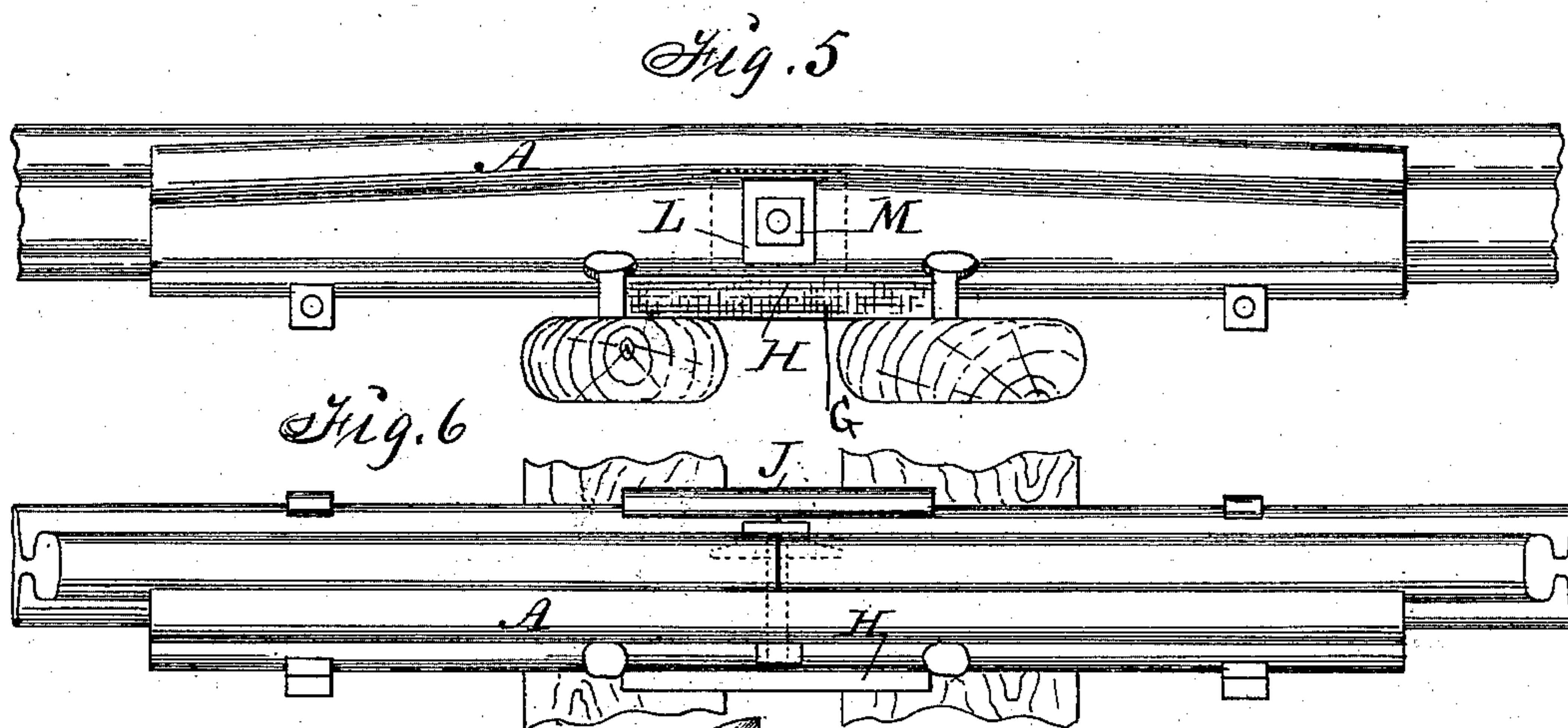
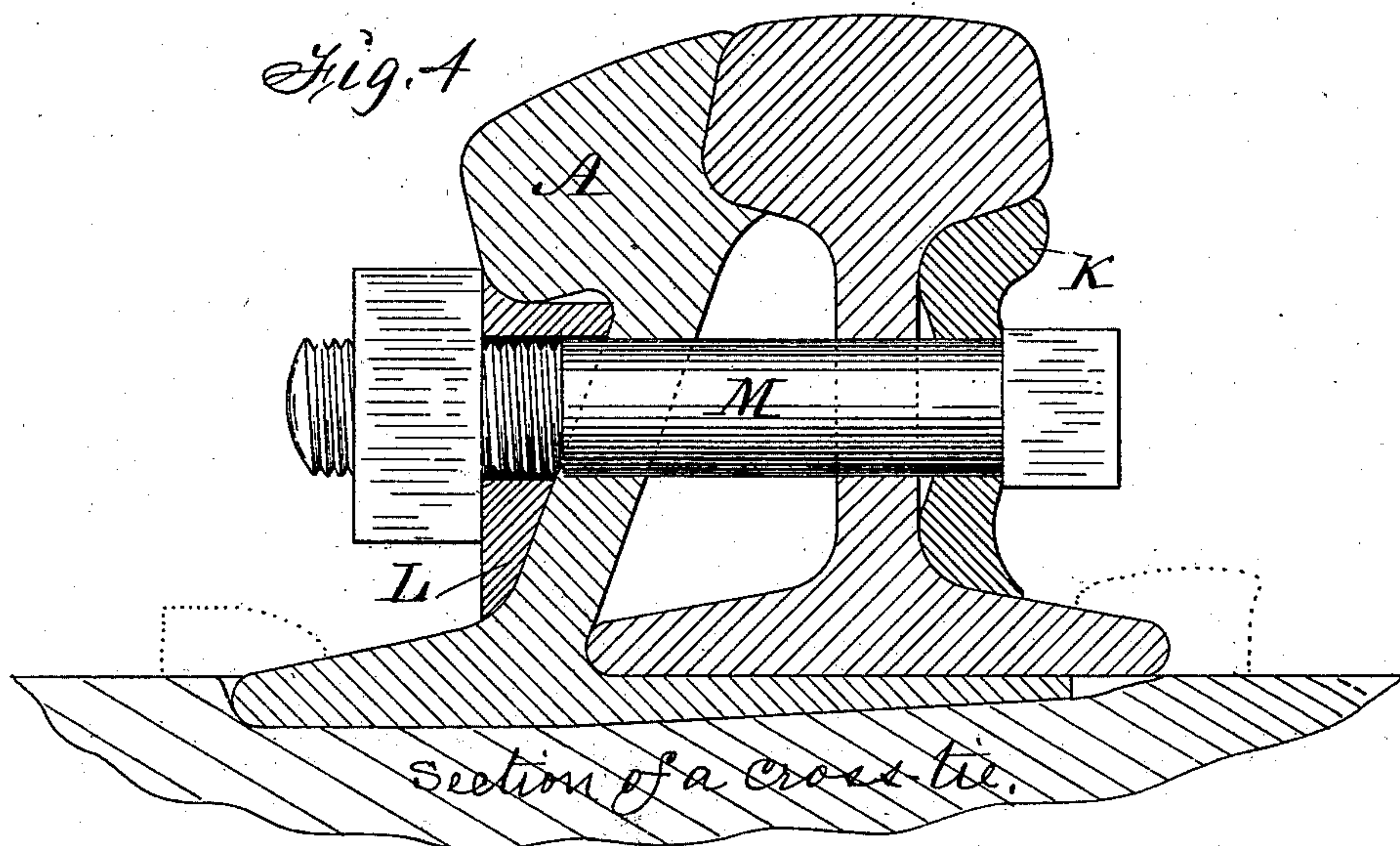
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2 Sheets—Sheet 2.

S. STEWART.
RAILWAY RAIL JOINT.

No. 317,037.

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Lem Stanton

Inventor:
Shau Stewart,
By Thomas G. Orwig, Atty.

UNITED STATES PATENT OFFICE.

SHAW STEWART, OF STUART, IOWA.

RAILWAY-RAIL JOINT.

SPECIFICATION forming part of Letters Patent No. 317,037, dated May 5, 1885.

Application filed August 18, 1884. (No model.)

To all whom it may concern:

Be it known that I, SHAW STEWART, a citizen of the United States, and a resident of Stuart, in the county of Adair and State of Iowa, have invented an Improved Railway-Rail Joint, of which the following is a specification.

My object is to prevent the noise, concussion, dangers, accidents, and loss of life and property incident to the movements of the abutting ends of rails in a continuous track under the tread of the wheels of locomotives and trains of cars, and also to utilize old rails in forming joints.

My invention consists in the construction and combination of a rail-section, a chair, a fish-plate, an auxiliary chair, and a screw-clamp with the ends of two rails in a track, as hereinafter fully set forth.

Figure 1 of the accompanying drawings is a transverse section of a joint in which a screw-clamp is passed through the webs of the rails, the fish-plate, and the rail-section. Fig. 2 is a transverse section in which the screw-clamp is passed under the flange of the rail and the overlapping rail-section at their sides. Fig. 3 is a perspective view of a washer adapted to engage the flange of a rail. Fig. 4 is a transverse section showing the rail-section combined direct with a cross-tie and the metal chair dispensed with. Fig. 5 is a side view, and Fig. 6 a top view, of a complete joint. Fig. 7 is a perspective view of my rail-section adapted to be utilized in forming a joint. Fig. 8 is a perspective view of my auxiliary chair adapted to be used in combination with my rail-section and chair.

Jointly considered, these figures clearly illustrate the construction and operation of my complete invention.

A represents a section of rail transformed and adapted to be combined with the abutting ends of two rails to aid in producing a solid joint and continuous track. The web of the section is inclined relative to the flat bottom and flange in such a manner that the T head or ball of the rail will engage the abutting ends of two rails when the flange of the section is slipped under the abutting ends, and the one side of the ball of the section has a concave edge adapted to fit against the convex edges of the abutting ends, as clearly

shown in Figs. 1, 2, 3, and 7. The rail-sections A may be pressed into the required shape by means of dies, cast in molds, or produced in any suitable way.

B B are notches formed in the edge of the flange of the section A, to admit corresponding projections on the edge of my auxiliary chair.

C (shown in Figs. 1 and 8) is an auxiliary chair adapted to engage and interlock with the abutting ends of two rails, and also the overlapping section A. It has lateral projections D that fit into the notches B of the section A, and vertical projections F that fit into corresponding notches formed in the edges of the flanges of the abutting ends of the rails.

G (shown in Figs. 1 and 5) represents my chair adapted to be combined with the abutting ends of two rails and the section A. It is in the form of a flat metal plate that may vary in length as desired, and corresponds in width with the flange of a rail and the flange of the section A when united, as shown in Fig. 1. This auxiliary chair may be formed integral with the flange of the rail-section A when both parts are made of new material.

H is a flange extending vertically at one edge of the chair to engage the flange of the section A.

J is a curved edge on the opposite side, adapted to overlap the edges of the flanges of the abutting ends of two rails, and also my auxiliary chair C, as clearly shown in Fig. 1.

K represents a fish-plate, and L a washer, and M a screw-bolt by means of which the section A is clamped to the abutting ends of two rails, as shown in Figs. 1, 4, 5, and 6.

N (shown in Figs. 2, 5, and 6) is a screw-clamp adapted to fasten the section A to the abutting ends of two rails. It has a vertical bend and shoulder, P, and terminates in a hook, R. One of these clamps is placed at each end of the rail-section A, so that they will be on the opposite side of the tie and chair upon which the ends of the rails meet.

S is a washer that has a horizontal slot, T, adapted to admit the edge of the flange of a rail.

To form a joint as shown in Fig. 1, I place the chair G upon cross-ties in a common way, and the auxiliary chair C and the rail-section A upon it as required to allow the projections

D to enter the notches B and interlock the two parts. I next place the ends of two rails upon the interlocked parts in such a manner that the vertical projections F will enter corresponding notches in the edges of the flange of the rails, and the edges of their flanges on the opposite side enter the angle formed by the web and the flange of the section A, and the convex edges of their balls enter the concaves in the edge of the ball of the section A. By then drawing the parts together by means of the fish-plate K, washer L, and bolt M, and fastening the chair to cross-ties by means of spikes, the abutting ends of the two rails will be firmly fixed and braced at the top and bottom, so that there can be no independent vertical or lateral movement of either end, and no jarring and hammering and straining of the track and the wheels and axles of locomotives and cars when trains pass over the joint.

One or more bolts M may be used in each joint, and to avoid perforating the webs of the rails when only one bolt is used I form transverse notches in the ends of the webs of the rails.

To dispense with the chair G and auxiliary chair C, I cut out wood from the top surface of the ties to form a seat for the flange and base of the rail-section A, as shown in Fig. 4, or apply clamps N P R and washers S T, as shown in Fig. 2. The clamps N P R can also be advantageously used in combination with the chair, as shown in Figs. 5 and 6, to fasten the ends of the section A to the abutting ends of the rails. The section A is preferably inclined in opposite directions on its top surface, as shown in Fig. 5 and the transverse section Fig. 2.

From the foregoing description of the con-

struction and function of each element, the unitary actions of all the parts and practical operation of my complete invention will be obvious to persons familiar with railway joints and tracks.

I claim as my invention—

1. A rail-section having its web inclined relative to its flange and base and one side of its T-head made concave and adapted to engage the abutting ends of the two rails, as and for the purposes stated.

2. The combination of the section A, having notches B, the auxiliary chair C, having projections D and F, and the abutting ends of two rails, substantially as shown and described, for the purposes specified.

3. The combination of the rail-section A, having notches B, the auxiliary chair C, having projections D and F, the chair G, having flanges H and J, and the abutting ends of two rails, substantially as and for the purposes shown and described.

4. The combination of the rail-section A, the screw-clamps N P R, and the washers S T, with a rail or the abutting ends of two rails, to operate in the manner set forth to support a rail or the abutting ends of two rails in a railway-track.

5. The improved railway-joint composed of a rail-section, A B, an auxiliary chair, C D F, a chair, G H J, a fish-plate, K, a washer, L, a bolt, M, clamps N P R, washers S T, and the abutting ends of two rails, substantially as shown and described.

SHAW STEWART.

Witnesses:

W. P. MOULTON,
J. H. KERSEY.