

No. 725,965.

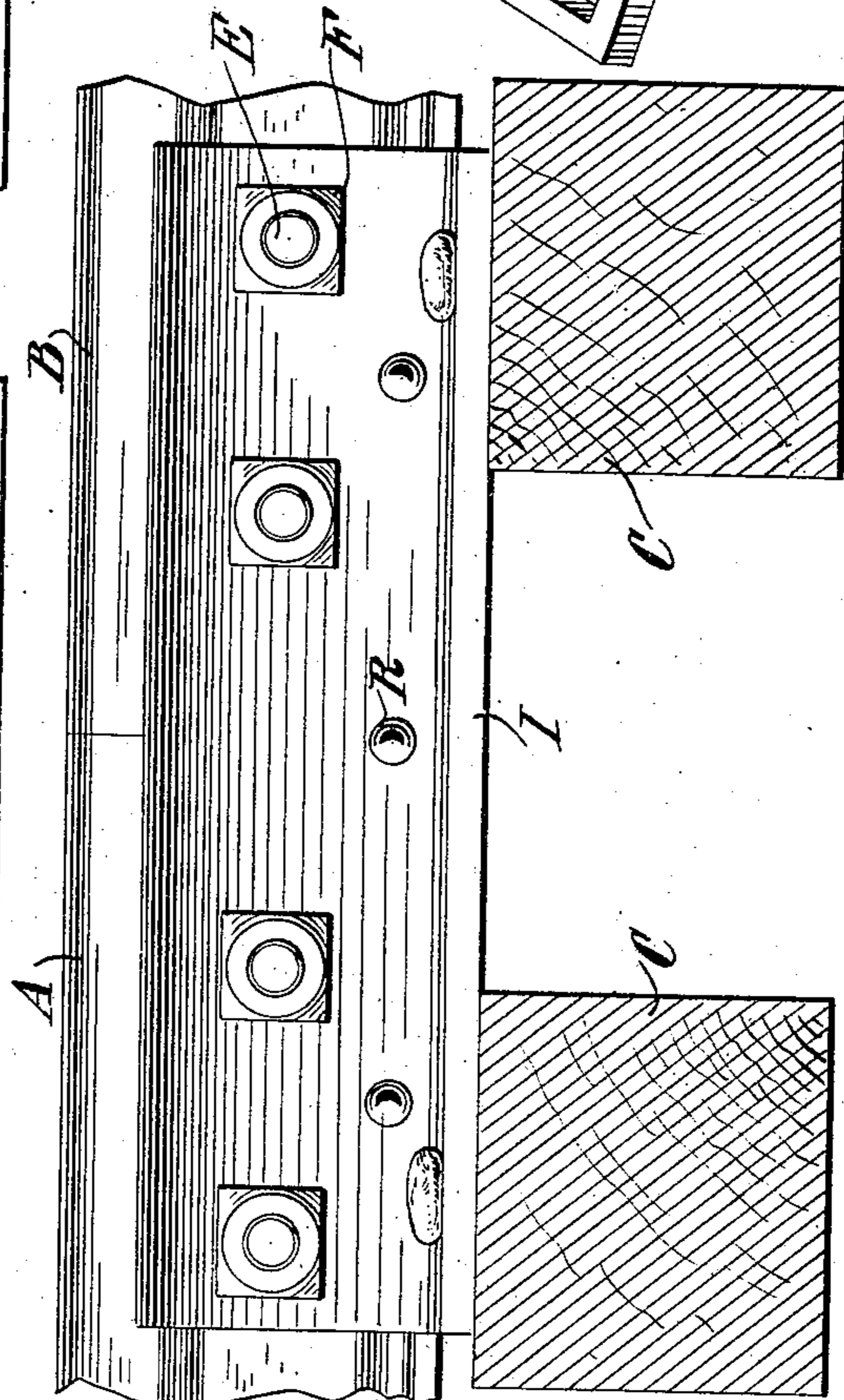
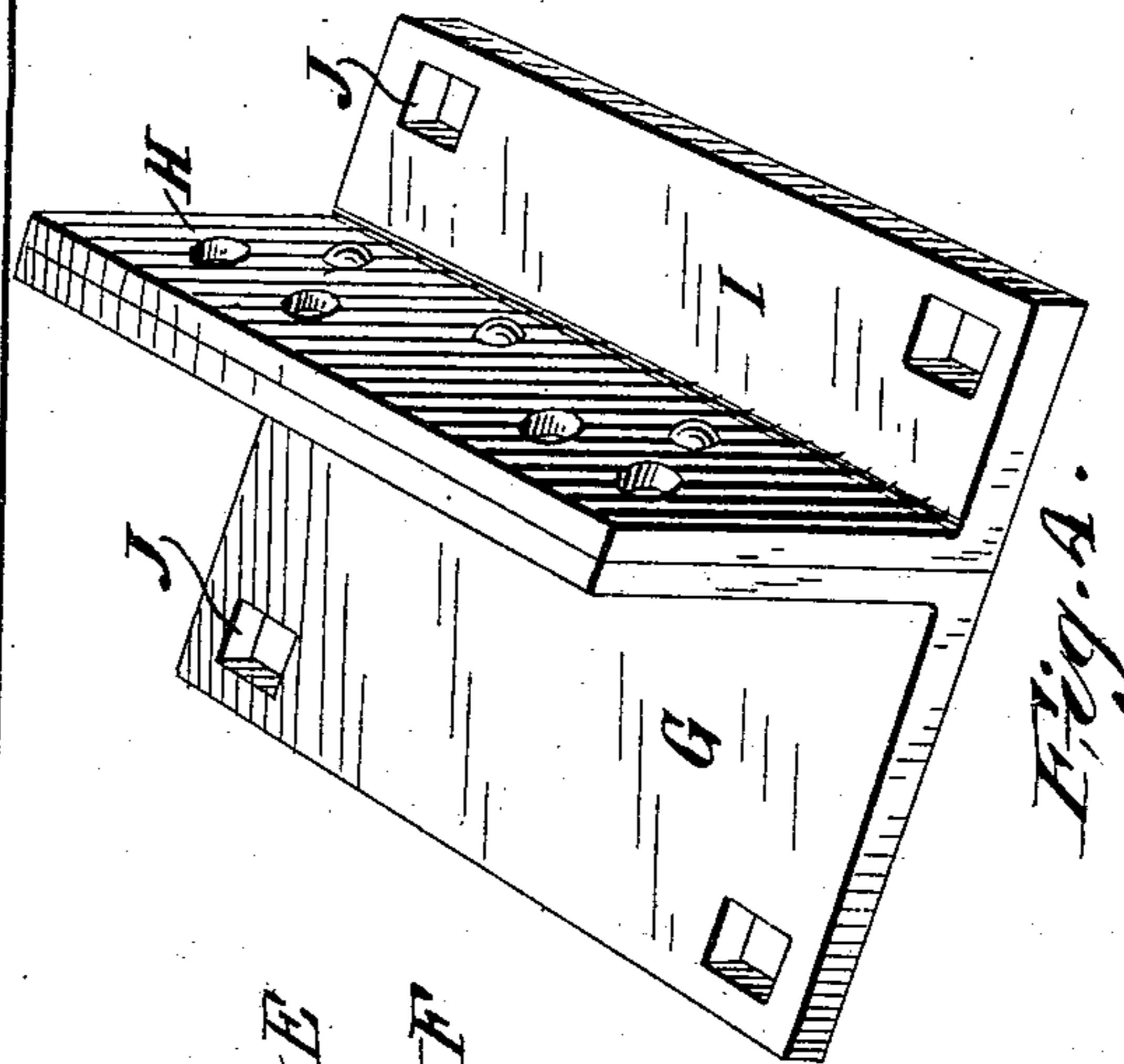
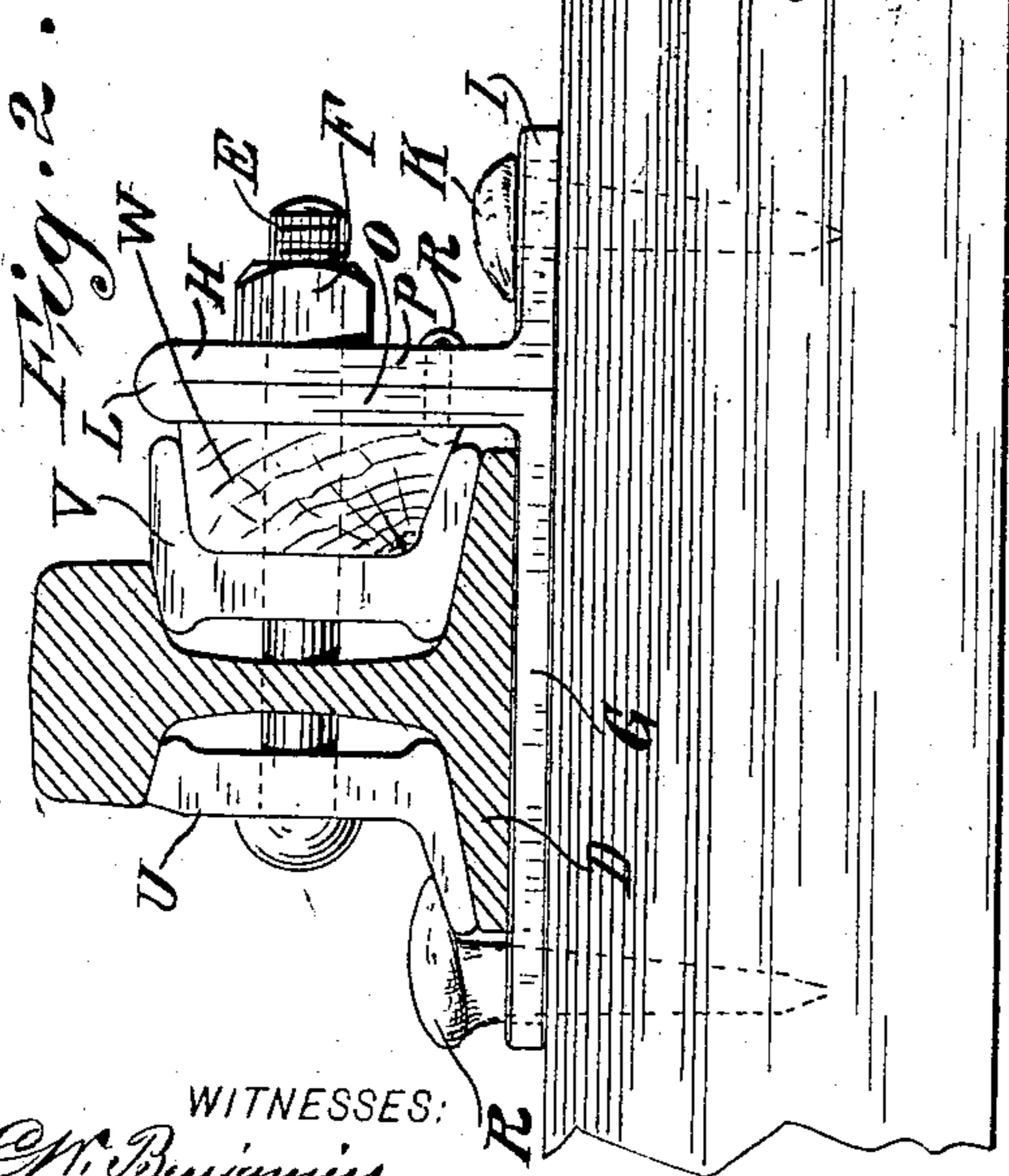
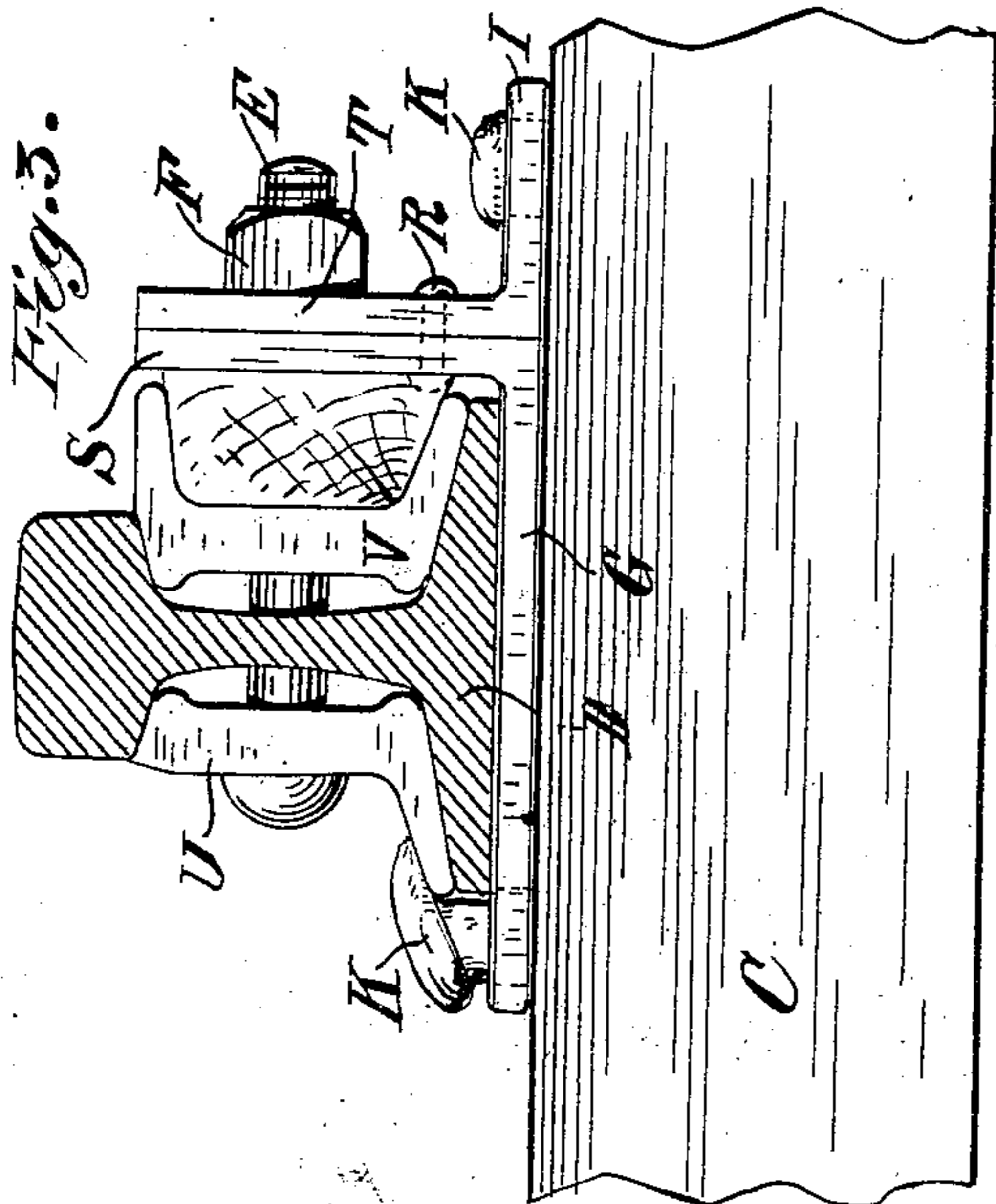
PATENTED APR. 21, 1903.

P. HOLBROOK.
RAIL JOINT.

APPLICATION FILED FEB. 28, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES:
E. H. Benjamin
A. L. Oliver

Fig. 1.

INVENTOR
Percy Holbrook
by *Decker, Brown,*
Raegen & Bunney
ATTORNEYS

No. 725,965.

PATENTED APR. 21, 1903.

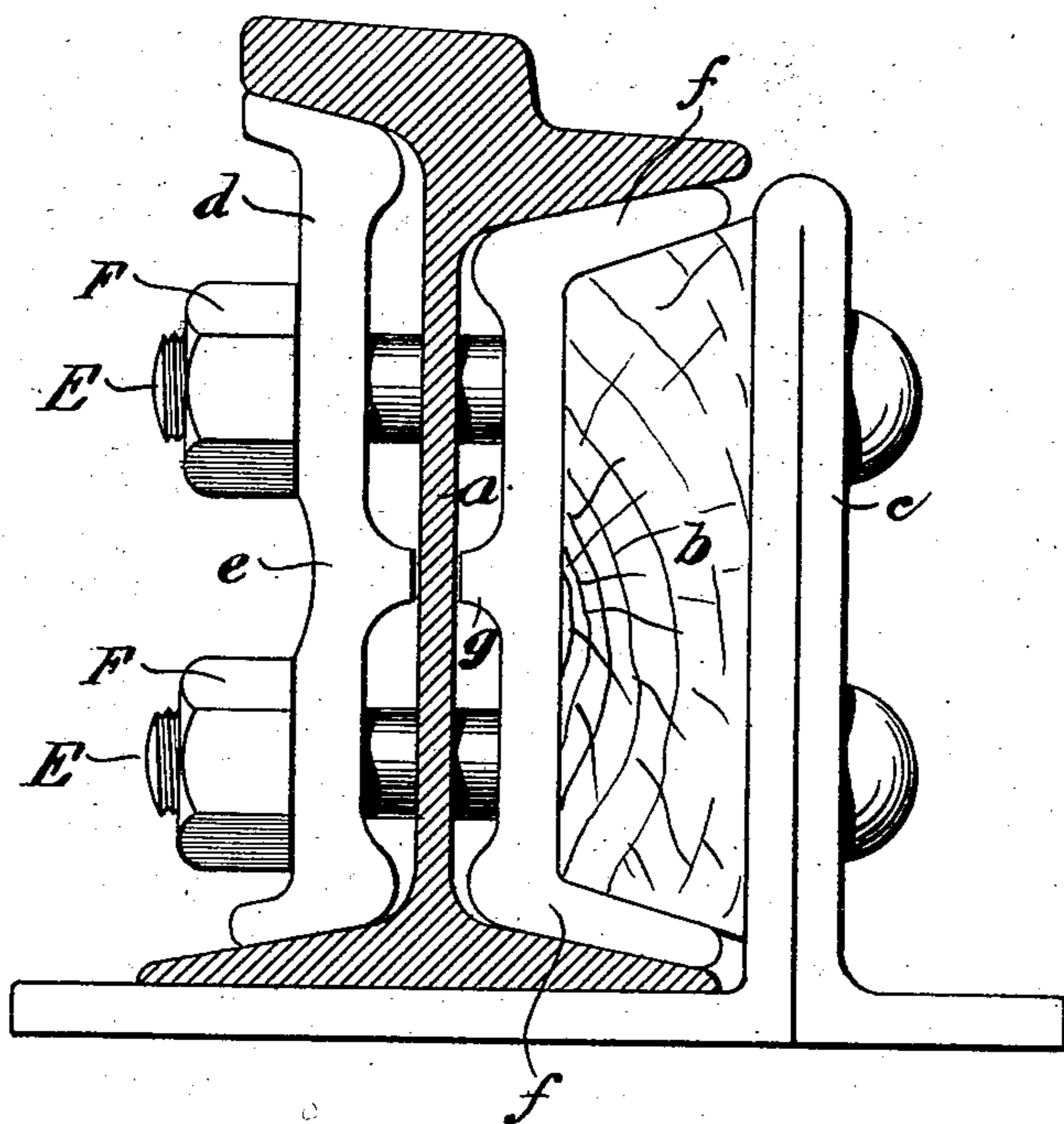
P. HOLBROOK.
RAIL JOINT.

APPLICATION FILED FEB. 28, 1903.

NO MODEL.

2 SHEETS--SHEET 2.

Fig. 5.



Witnesses
A. L. O'Brien
H. G. G. G.

Percy Holbrook
Inventor
by Decker Brown
Rogers & Bessey
attys

UNITED STATES PATENT OFFICE.

PERCY HOLBROOK, OF NEW YORK, N. Y.

RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 725,965, dated April 21, 1903.

Application filed February 28, 1903. Serial No. 145,576. (No model.)

To all whom it may concern

Be it known that I, PERCY HOLBROOK, 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 increase the strength of the joint and enable the parts to be firmly secured to the ties.

Further objects of my invention will hereinafter appear; and to these ends my invention consists of a rail-joint 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 elevation of a rail-joint embodying my invention. Fig. 2 is a transverse section of the same. Fig. 3 is a transverse section of a modification. Fig. 4 is a perspective view of one form of rail-chair, and Fig. 5 is a transverse sectional view of my improved rail-joint applied to a girder-rail.

Referring to the drawings, A and B represent the ends of adjacent rails of a railway, which rails are supported upon the ties C. According to my invention the bases D of the rails rest upon rail-chairs, while the fish-plates of the rail-joint, the packing, and the rail-chair are suitably secured to each other by the bolts E, provided with the nuts F.

In order to carry out the objects of my invention, the rail-chair is constructed as shown in the drawings, and it will be seen that in each instance the chair consists of the base G, the upright H, and the plate I. The base G and plate I are provided with means for securing the rail-chair to the ties, in this instance the apertures J being provided in the portions G and I of the chair, through which the spikes K pass.

According to my invention I strengthen the upright H of the rail-chair by forming the metal at this portion of greater thickness than the remainder of the rail-chair. As shown in Fig. 2, the upright H is bent at L, one portion of the upright being bent re-

versely to increase the thickness of the metal, and the portions O and P, forming the upright H, may be secured to each other by suitable means, shown as the rivets R.

In the construction shown in Fig. 3 the rail-chair comprises two separate portions, and the upright, as before, comprises the portions S and T, which may be secured to each other, as by means of the rivets R. The rail-chair shown in Fig. 2 may be forged into the desired form, while in Fig. 3 the angle-iron comprising the upright T and plate I is placed against the upright S of the main portion of the rail-chair and the two uprights S and T secured as described. In both forms shown the rivets R may or may not be used, as desired.

Fish-plates are arranged along the webs of the meeting ends of the rails, as shown, the angle-plate U being arranged on one side of the rail ends and the channel-plate V at the other side, while between the channel-plate and the upright H of the rail-chair is arranged the packing W, shown in this instance as comprising a block or strip of wood. The whole joint is strong and compact and firmly secures the parts together. The bolts E, as shown, pass through the angle-plate U, the webs of the rails, the channel-plate V, the packing W, and the upright H of the chair.

In Fig. 5 a modified form of joint is shown, which may be termed a "girder" rail-joint. As shown, the rail has a high web *a*, and there are two rows of bolts E for securing the fish-plates, the packing *b*, and the rail-chair together. In the form of rail-joint shown in Fig. 5 the rail-chair is constructed like the rail-chair in Fig. 2, except that the upright *c* is of sufficient height to afford provision for securing two rows of bolts E therethrough. The fish-plates *d* and *f* are provided with a strengthening-rib *e* and *g*, extending longitudinally thereof, while elastic packing *b* is arranged between the fish-plate *f* and the upright *c* of the rail-chair. In the rail-joint of the height illustrated in Fig. 5 the increased strength secured by the reinforced upright *c* of the rail-chair adds materially to the efficiency of the joint. As before, the bolts E pass through the fish-plates, the web of the rail, the packing *b*, and the upright *c* of the rail-chair.

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 or enumerating equivalents, I claim, and desire to obtain by Letters Patent, the following:

1. A rail-joint comprising a rail-chair having a base and an upright formed by a double thickness of metal, a plate extending outwardly from said upright for securing the chair to the rail-ties, rail ends supported upon the base of the chair, fish-plates extending along the webs of said rail ends, a packing arranged between one fish-plate and the upright of the chair, and bolts for securing the parts of the joint together, for substantially the purposes set forth.

2. A rail-joint comprising a rail-chair, consisting of a main portion having a base and an upright, and an angle-iron comprising an upright and an outwardly - extending plate forming a base for securing the chair to the rail-ties, the uprights of said main portion of the chair and the angle-iron being arranged back to back to form the upright of the chair of double thickness of metal, rail ends sup-

ported upon the base of the main portion of the chair, fish-plates arranged along the webs of said rail ends, a packing between one fish-plate and the upright of the chair, and bolts for securing the parts of the joint together, for substantially the purposes set forth.

3. A rail-joint comprising a rail-chair, consisting of a piece of metal provided with outwardly-extending base portions and having an upright consisting of a reversely-bent portion of the metal to form the upright of double thickness, rail ends supported upon one of the outwardly - extending portions of the rail-chair which forms a base to support the rails, fish-plates arranged along the webs of the rail ends, a packing between one of the said fish-plates and the upright of the rail-chair, and bolts for securing the parts of the joint together, for substantially the purposes set forth.

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

PERCY HOLBROOK.

Witnesses:

A. L. O'BRIEN,
H. G. OGDEN, Jr.