

No. 737,071.

PATENTED AUG. 25, 1903.

H. J. BUBENHEIM.

RAIL JOINT.

APPLICATION FILED MAR. 31, 1903.

NO MODEL.

Fig. 1

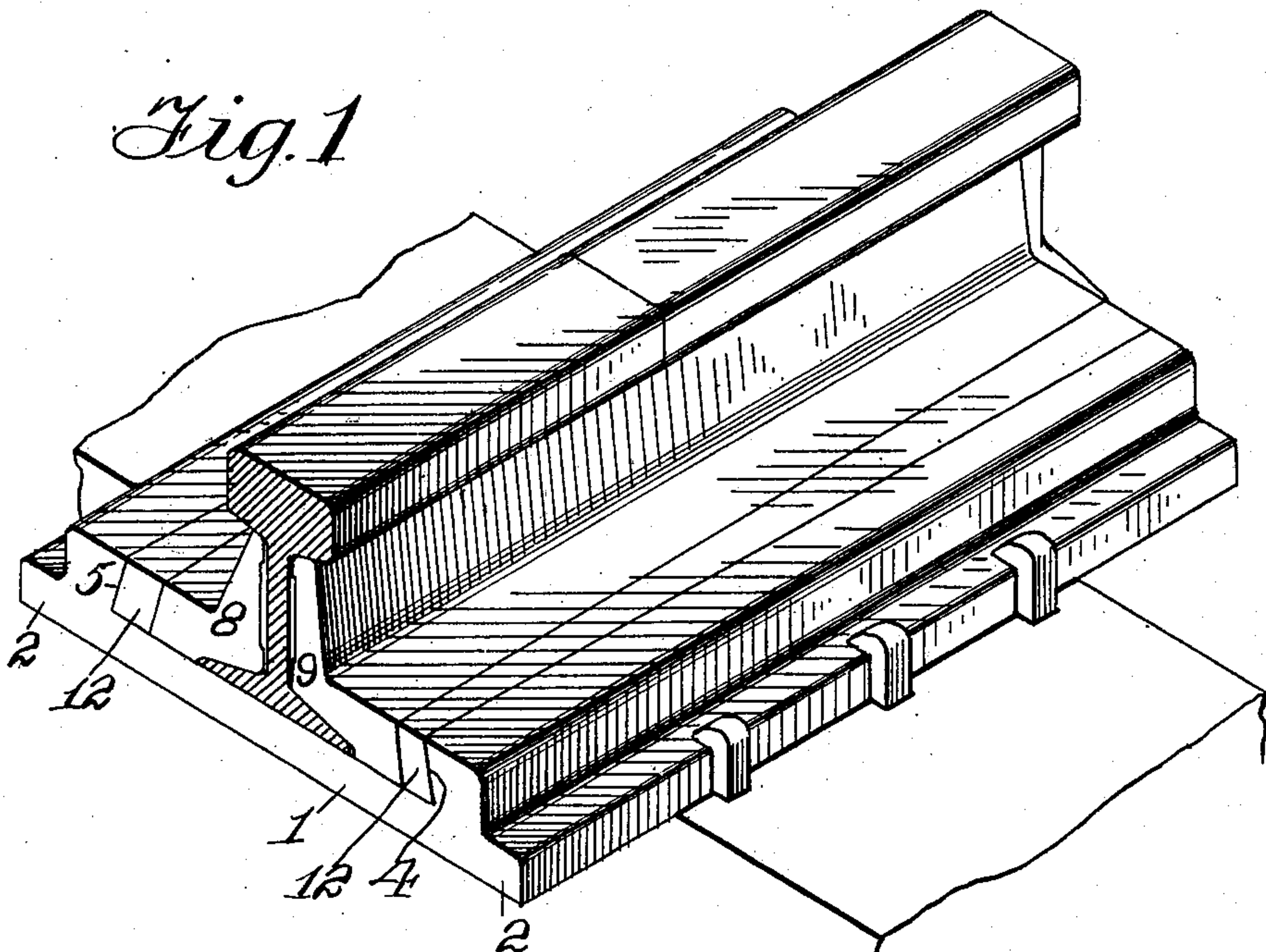


Fig. 2

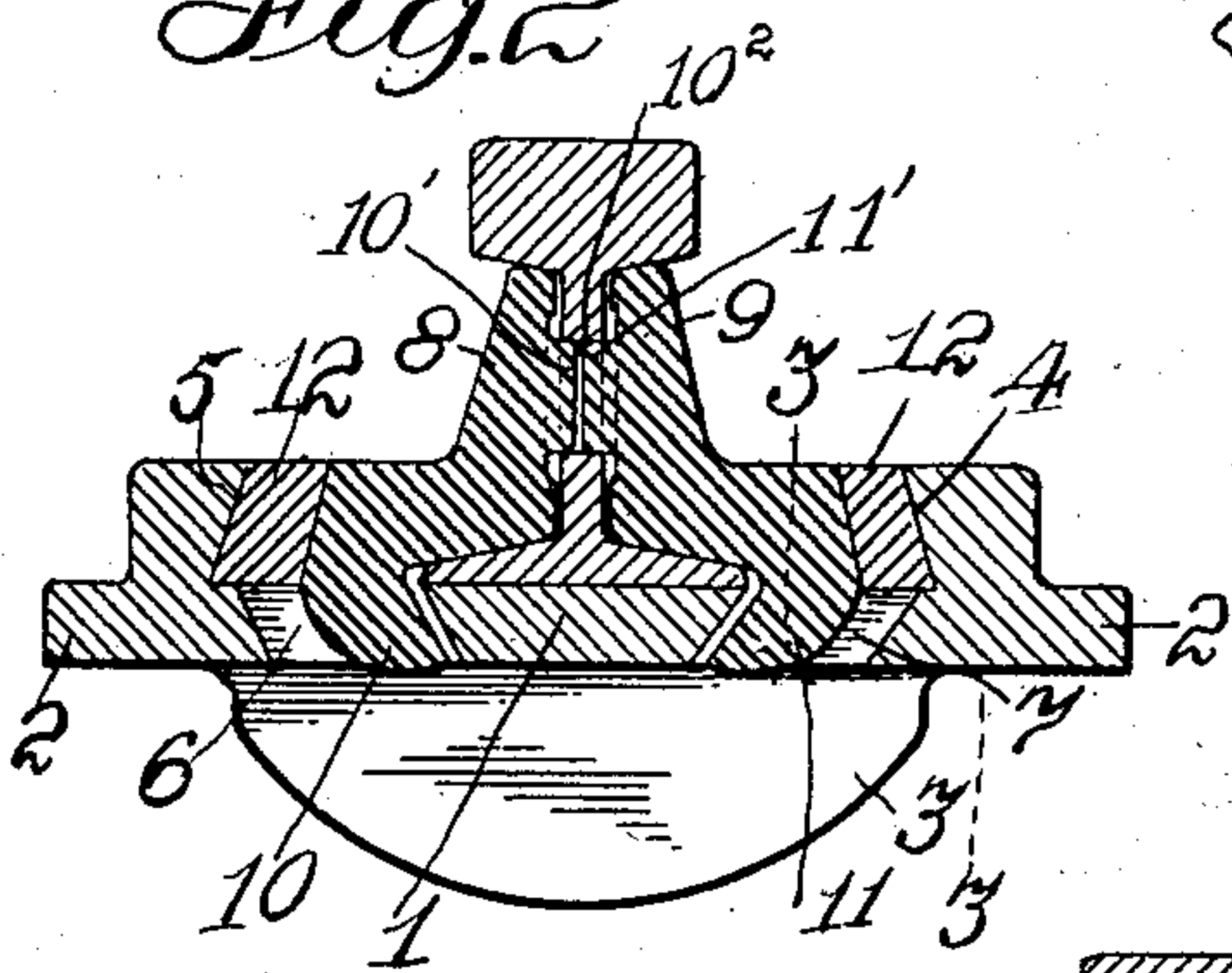


Fig. 3

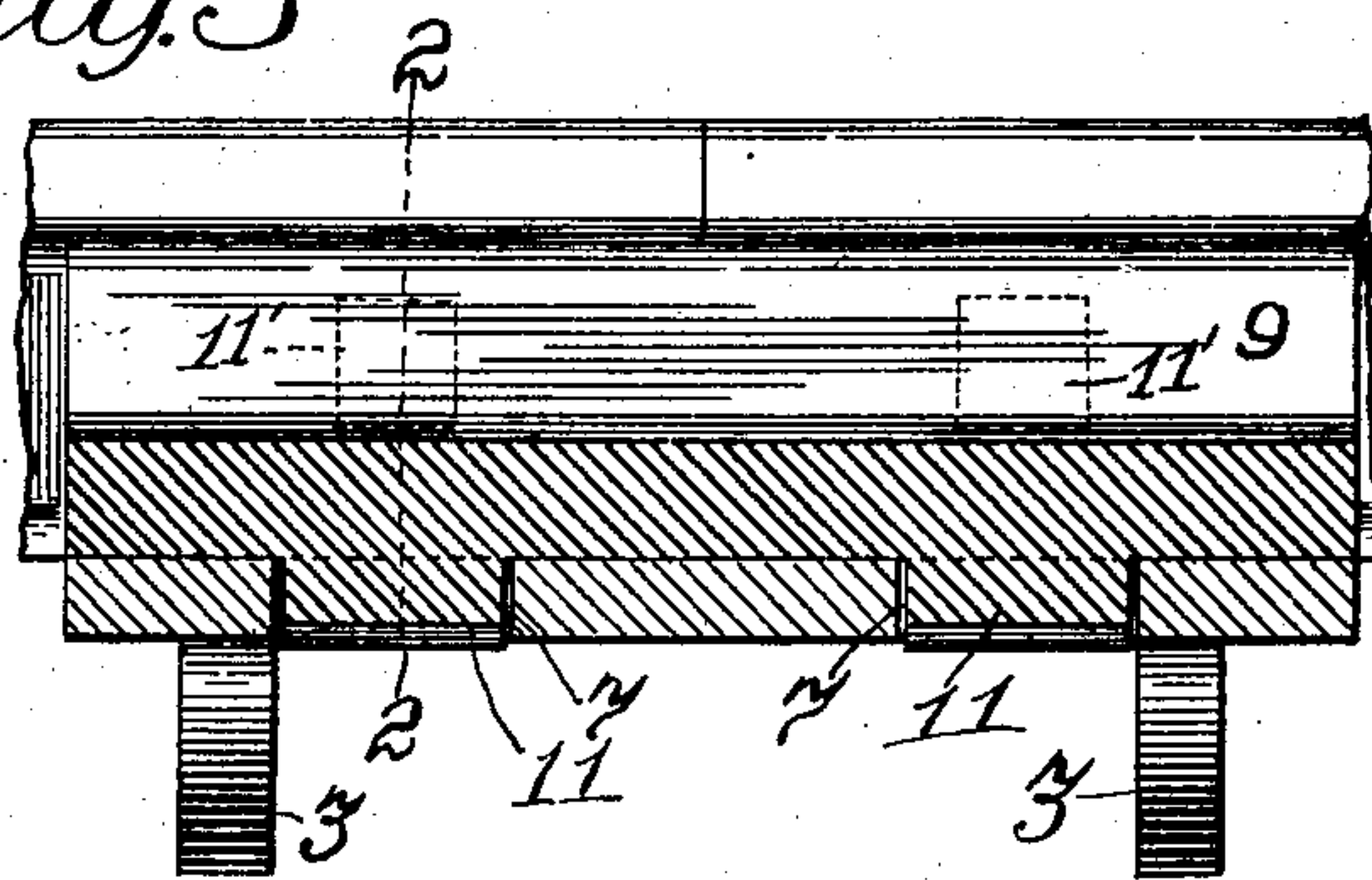
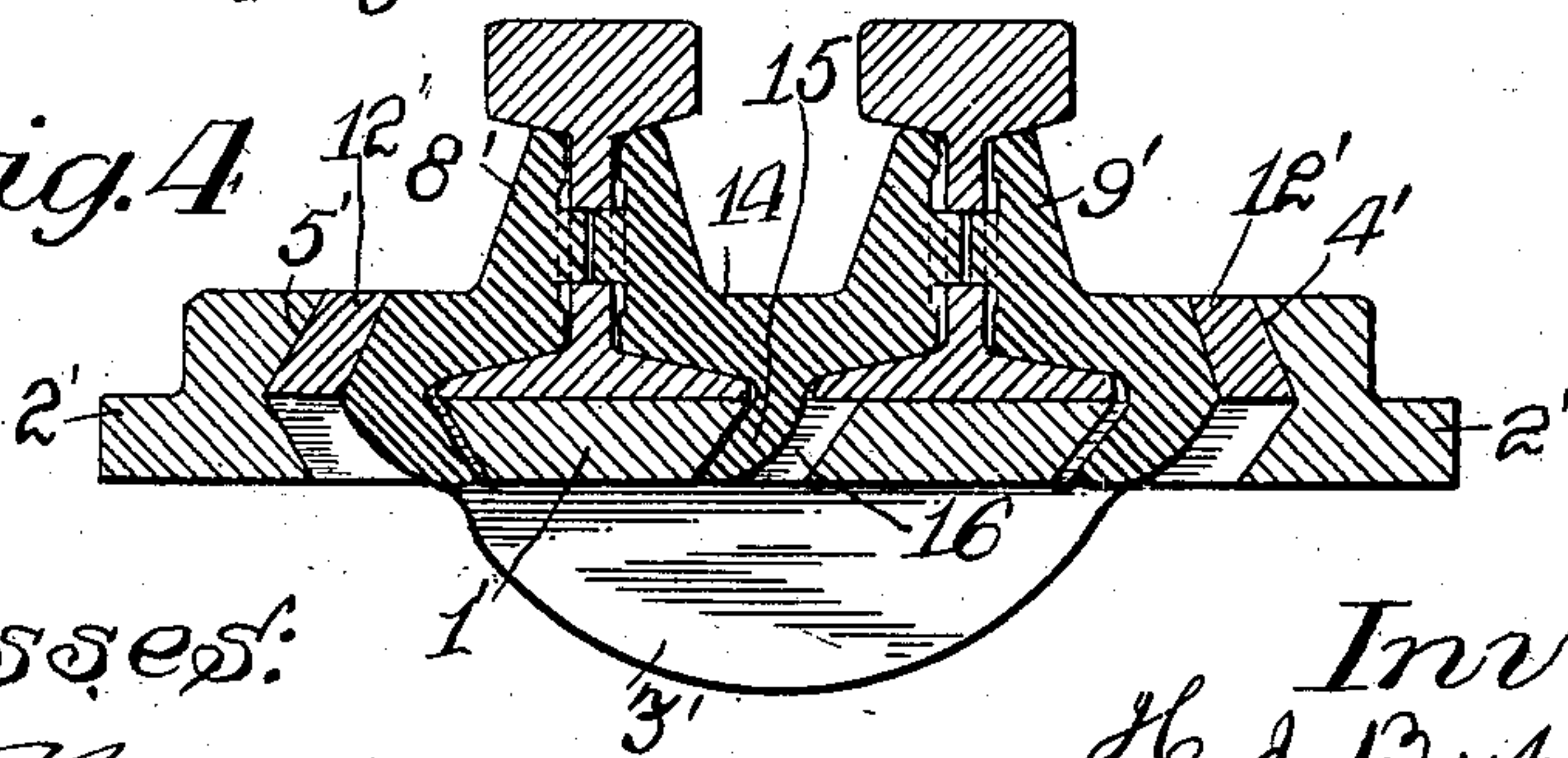


Fig. 4



Witnesses:

H. J. Bubenheim
L. Boulton.

Inventor:
H. J. Bubenheim
By O. O. Lewis
Attorney.

UNITED STATES PATENT OFFICE.

HENRY J. BUBENHEIM, OF PITTSBURG, PENNSYLVANIA.

RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 737,071, dated August 25, 1903.

Application filed March 31, 1903. Serial No. 150,403. (No model.)

To all whom it may concern:

Be it known that I, HENRY J. BUBENHEIM, a citizen of the United States, residing at Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Rail-Joints, of which improvement the following is a specification.

This invention relates to certain new and useful improvements in rail-joints, and has for its object the production of a joint whereby the ends of two adjoining rails are securely and expeditiously joined and yet may be readily removed when desired.

In describing the invention reference will be had to the accompanying drawings, forming a part of this specification, and wherein like reference-numerals indicate like parts in the several views, and in which—

Figure 1 is a perspective view showing my rail-joint applied to the ends of two rails. Fig. 2 is a cross-section on the line 2 2 of Fig. 3. Fig. 3 is a cross-section on the line 3 3 of Fig. 2. Fig. 4 is a view of a modified form, showing a construction for holding both the traction and guard rail by the same joint.

The reference-numeral 1 indicates the chair, in which the rails and securing parts are firmly held, said chair being secured to the tie by spikes, the heads of which engage the flanges 2 2, and longitudinal movement of said chair is prevented by lugs or ears 3 3, provided on its under side and contacting with either side of the cross-tie. The chair 1 is recessed in its central upper side the length of the same, and the two walls 4 5, forming the sides of this recess, are cut on an angle to a vertical line, said angle running from the upper edge of said wall toward the outside edges of the chair. Rectangular apertures 6 and 7 7 are cut in the bottom of this recessed portion, said apertures having their lateral walls also cut on an angle; but said angle runs in an opposite angle to that cut on its adjacent wall of the recessed portion of the chair. Splice-bars 8 and 9 have provided on their under side lugs 10 and 11, which are formed on an angle corresponding with the apertures 6 and 7 7, in which they are inserted, and said apertures and lugs are of such relative lateral width that the splice-bar is free to move laterally; but longitudinal movement of said bars is prevented. The

inside of these splice-bars are also provided with lugs 10' and 11', which when in their securing position engage suitable apertures 10², formed in the web of the rail for the purpose of preventing movement of said rail. Either the outside edge of these splice-bars or the inside surface of the walls of the chair are also cut on a slight longitudinal angle, and taper keys 12, conforming in cross-section to the space between the splice-bar and the wall of the recess in the chair, are provided, said longitudinal angle of said aperture being so formed that the keys must enter from opposite ends of the chair. In securing rails in position said chair is suitably placed and the two ends of the rail laid therein. The splice-bars are then inserted, it being necessary to first cause the lugs on the under side of said bars to enter its corresponding aperture in the chair toward the outside edges of the chair, due to the angle on which lugs and apertures are formed. The splice-bars are then moved toward the web of the rail, the keys 12 inserted and driven home, thus forcing said splice-bars to firmly engage, support, and hold the rail. The angle on which lugs and apertures are cut now prevent any substantial vertical movement of the rail, and the vertical angle of the walls of the recess in the chair and on the outside of the splice-bar prevent the vertical movement of the key. Longitudinal movement of the rail is prevented by the lugs on the inside of the splice-bar coacting with the apertures in the web of the rail.

A modified form of this rail-joint is shown in Fig. 4 and consists in adapting the features of this invention to the holding of a guard-rail, together with a traction-rail, and consists of the chair 1, having the securing-flanges 2 and ears 3', the keys 12' and 12' and the splice-bars 8' and 9' are the same as in the other form, whereby only one rail is held; but a rail-separator 14, having the angular lug 15, which is inserted in the aperture 16, formed in the chair, keeps the rails properly spaced.

While I have described my invention in detail, it will be noted that slight changes may be made in the details of construction without departing from the general spirit of the same.

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

1. In a rail-joint the combination of a chair,
5 the upper side of which is recessed, the walls
of said recess being formed on a longitudinal
and vertical angle, the bottom of said recess
being provided with a plurality of apertures,
the lateral walls of which are formed on a
10 vertical angle, splice-bars which engage the
rail at either side, said splice-bars being pro-
vided with lugs which engage aperture formed
in the web of the rail to be held, the under
side of said splice-bars being provided with
15 angular lugs which are inserted in the aper-
tures in the said chair, the relative size of
said lugs and apertures being such that the
said splice-bar may have lateral but not lon-
gitudinal movement, the outside edge of said
20 splice-bars being cut on a vertical angle cor-
responding with the adjacent wall of the re-
cess in said chair and taper keys which wedge
between the splice-bars and the walls of the
recess of the chair, substantially as described.
25 2. In a rail-joint the combination of a chair,
the upper side of which is recessed, the walls
of said recess being formed on a longitudinal

and vertical angle, the bottom of said recess
being provided with a plurality of apertures,
the lateral walls of which are formed on a 30
vertical angle, splice-bars which engage the
rail at either side, said splice-bars being pro-
vided with lugs which engage aperture formed
in the web of the rail to be held, the under side
of said splice-bars being provided with angular 35
lugs which are inserted in the apertures in the
said chair, the relative size of said lugs and
apertures being such that the said splice-bar
may have lateral but not longitudinal move-
ment, the outside edge of said splice-bars being 40
cut on a vertical angle corresponding with its
adjacent wall of the recess in said chair and
taper keys which wedge between the splice-
bars and the walls of the recess of the chair,
said chair being provided on its sides with 45
horizontal securing-flanges and on its bottom
with vertical ears, substantially as described.

In testimony whereof I have hereunto
signed my name in the presence of two sub-
scribing witnesses.

HENRY J. BUBENHEIM.

In presence of—

F. O. HENZI,
H. J. LEVIS.