H. CARMAK.

RAIL JOINT CHAIR.

APPLICATION FILED APR. 4, 1910.

962,312.

Patented June 21, 1910.

2 SHEETS—SHEET 1.

Fig. 1.

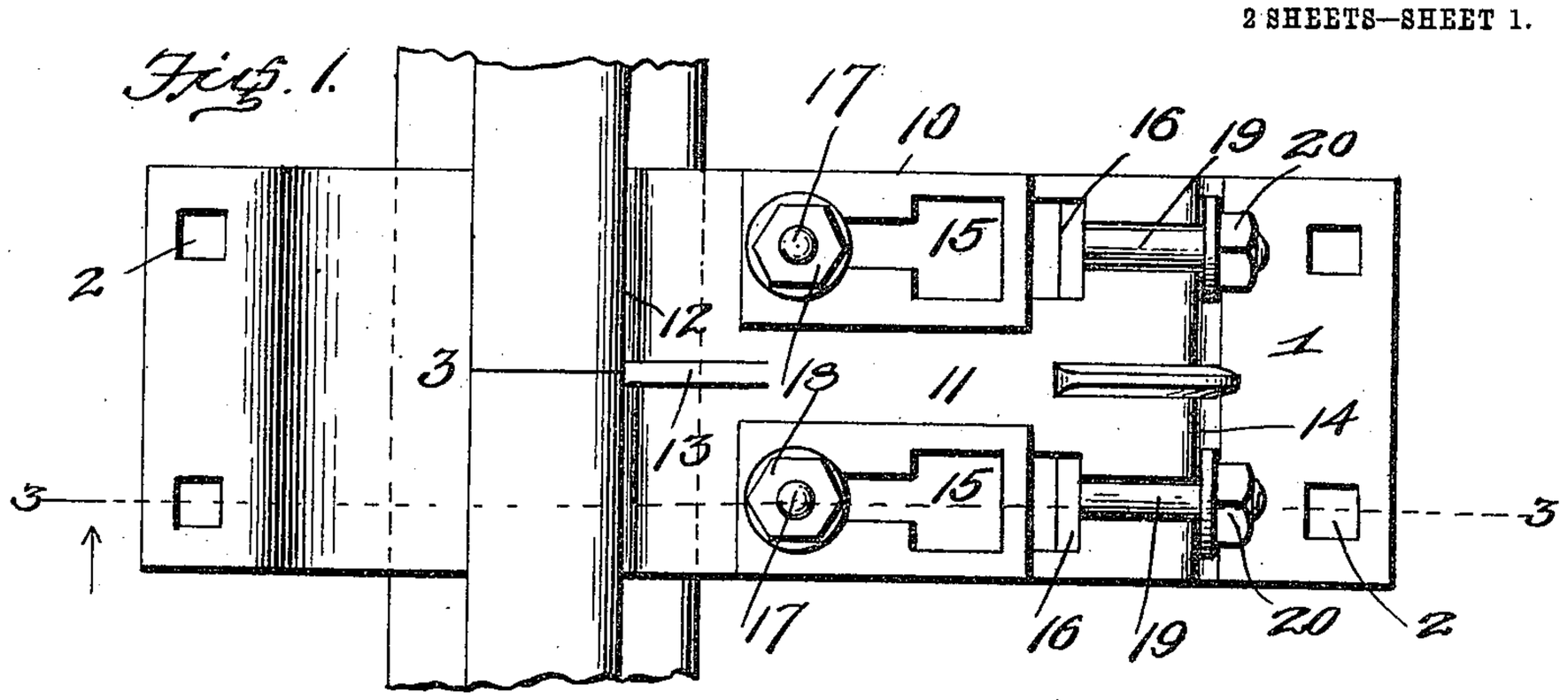


Fig. 2.

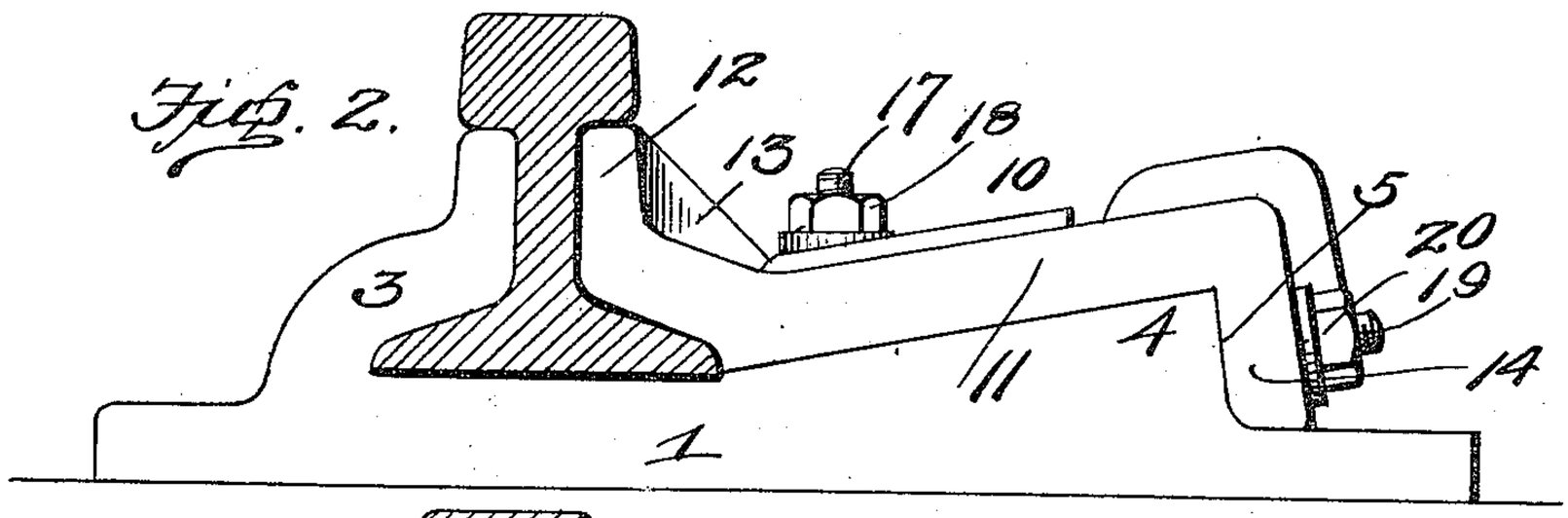


Fig. 3.

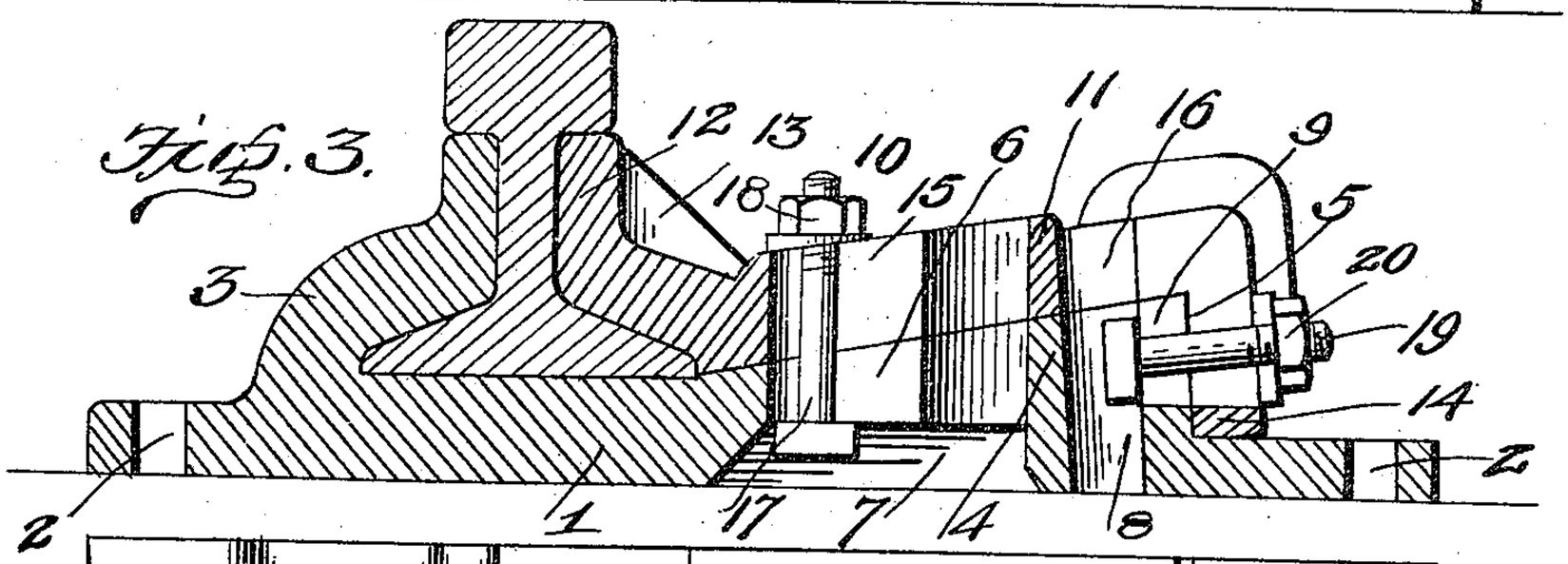
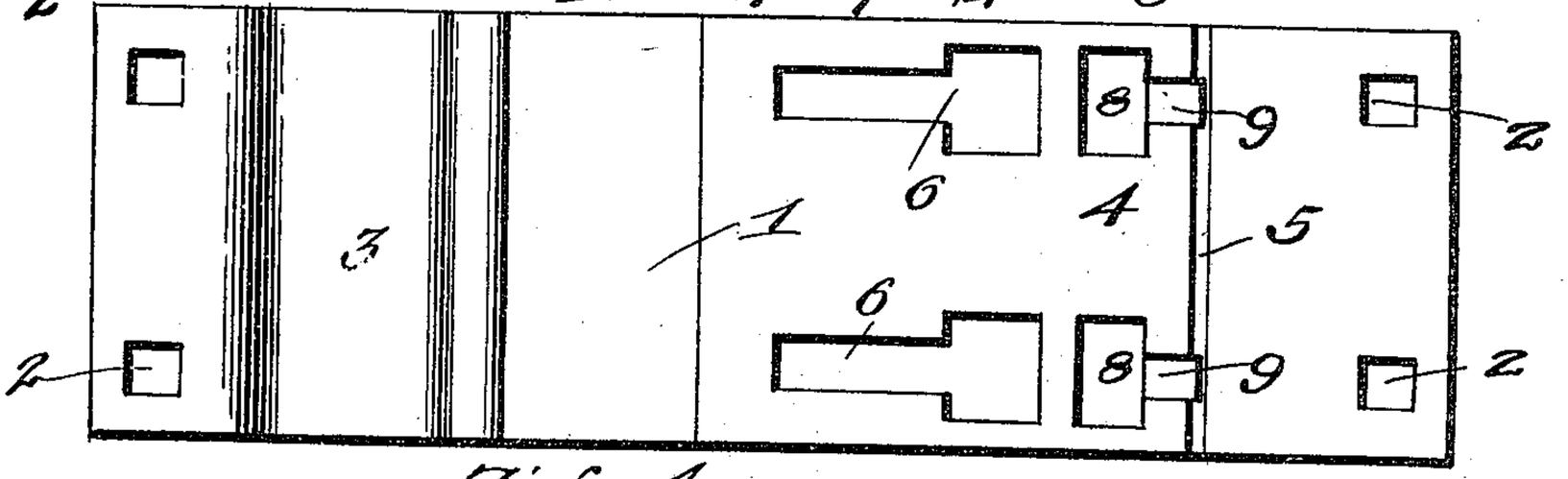


Fig. 4.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 5.

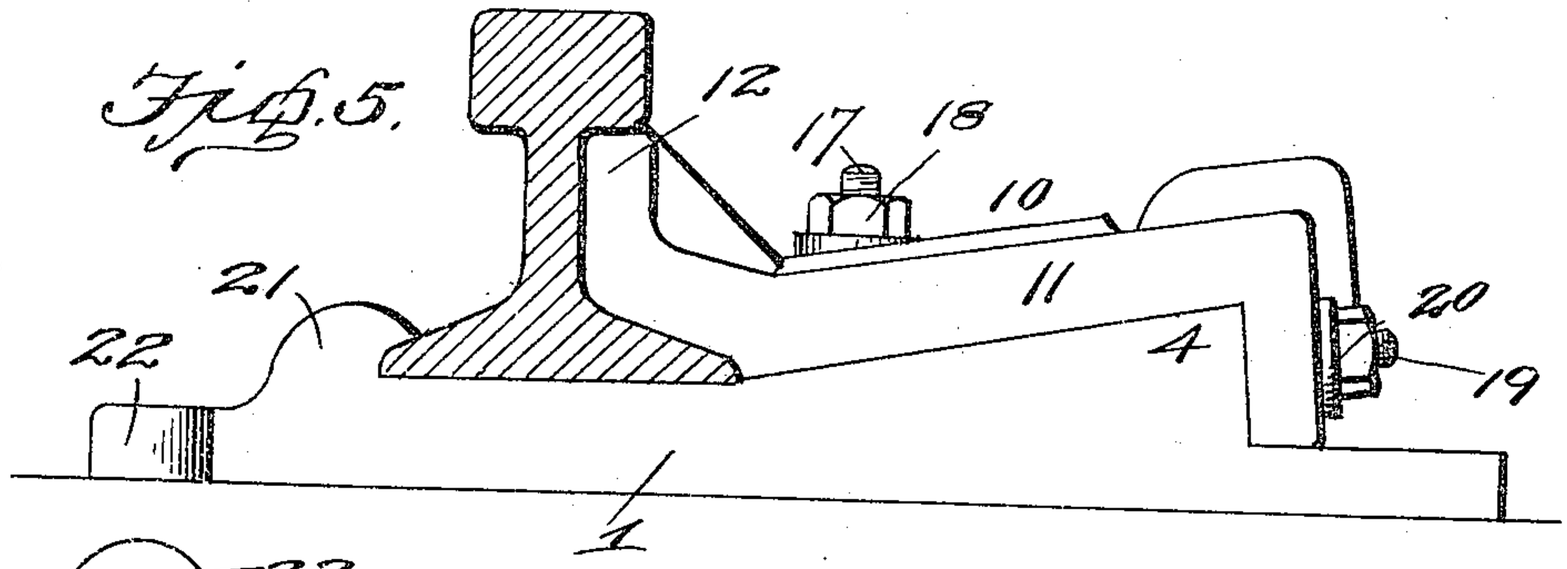

Fig. 6.

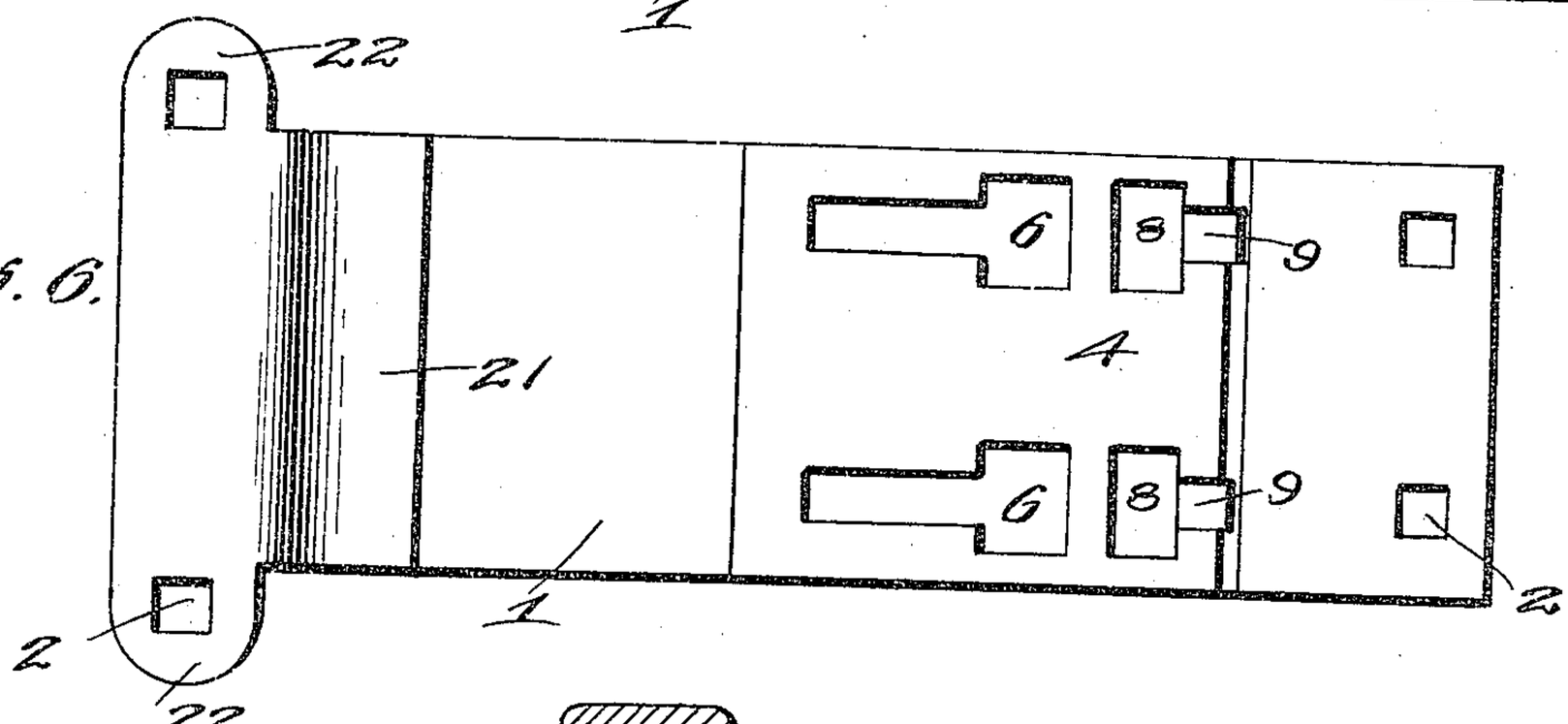

Fig. 7.

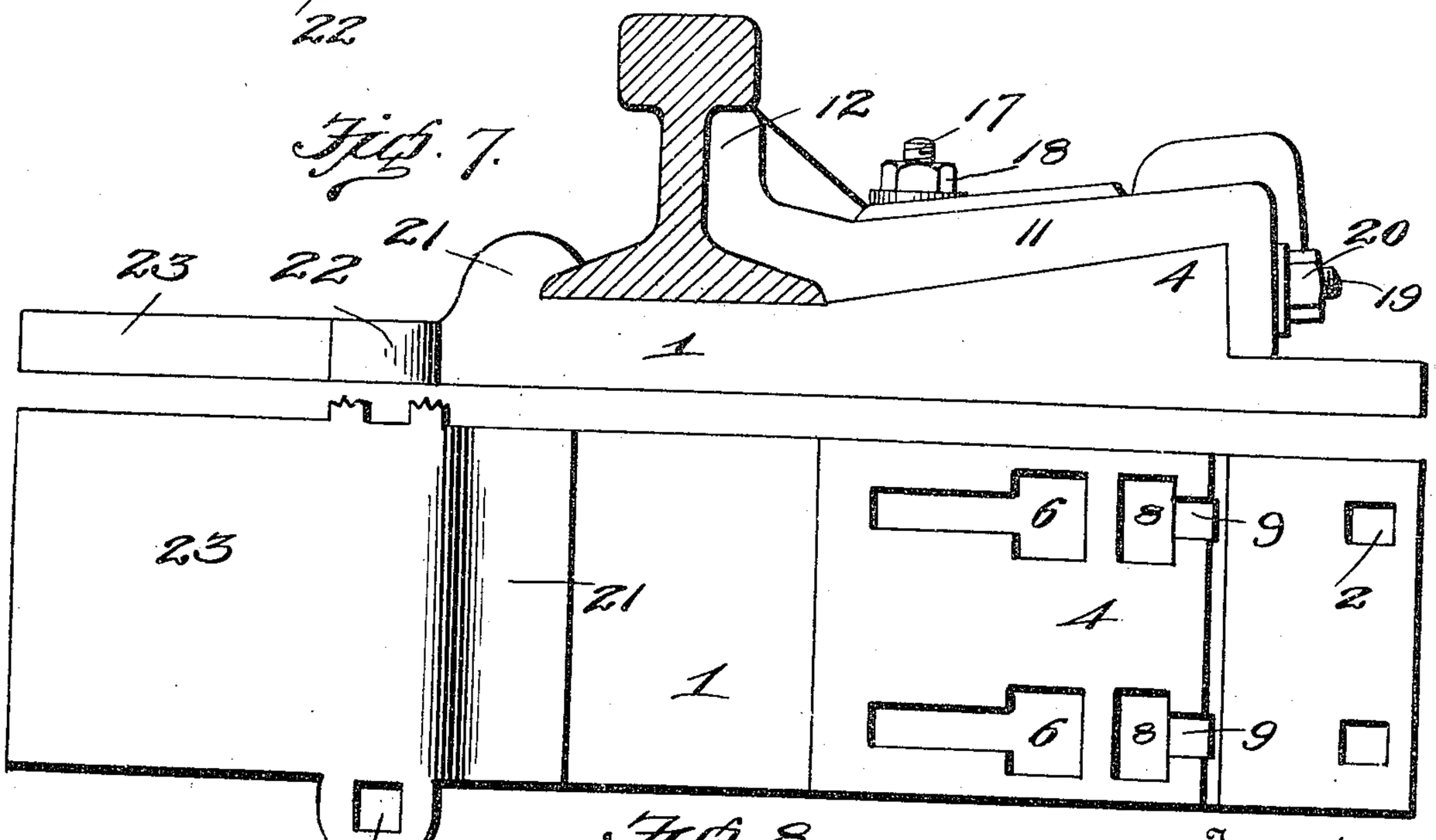

Fig. 8.

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UNITED STATES PATENT OFFICE.

HUGO CARMAK, OF PADUCAH, KENTUCKY.

RAIL-JOINT CHAIR.

962,312. Specification of Letters Patent. **Patented June 21, 1910.**

Application filed April 4, 1910. Serial No. 553,223.

To all whom it may concern:

Be it known that I, HUGO CARMAK, a citizen of Austria-Hungary, residing at Paducah, in the county of McCracken and State of Kentucky, have invented certain new and useful Improvements in Rail-Joint Chairs; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in rail joint chairs.

One object of the invention is to provide a rail joint chair by means of which the meeting ends of two rails may be securely fastened together and to the ties without forming holes in the rails or requiring the use of fishplates and rail bolts.

Another object is to provide a rail joint chair adapted for use on switch rails and on curves whereby such rails will be securely braced.

A further object is to provide a rail joint chair, the rail clamping member of which is so arranged and secured that any lateral strain thereon will cause the securing bolts to more tightly hold said clamping member and any loosening of the fastening bolts will be taken up.

With the foregoing and other objects in view, the invention consists of certain novel features of construction, combination and arrangements of parts, as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawings: Figure 1 is a plan view of the ends of two rails showing the application of my improved rail joint chair. Fig. 2 is an end view of the chair showing the rail in section. Fig. 3 is a vertical cross sectional view on the line 3—3 of Fig. 1. Fig. 4 is a plan view of the base plate of the chair. Fig. 5 is an end view of a modified form of the chair. Fig. 6 is a plan view of the base plate of the form shown in Fig. 5. Fig. 7 is an end view of another modified form of the chair, and Fig. 8 is a plan view of the base plate of the same.

In the embodiment of the invention as shown in the first three figures of the drawing I provide a base plate or member 1 having in its opposite ends spike holes 2 through which are driven spikes whereby the chair is secured in place on a tie. On the baseplate 1 adjacent to one end is formed an upwardly projecting rail engaging lug or member 3 which is curved and shaped to receive the tread portion of one side of the rail and to bear against the web and under side of the head of the rail when applied thereto. On the opposite end portion of the plate 1 from the lug or member 3 is formed an upwardly projecting bearing block 4 the outer end of which is formed at right angles and is slightly inclined as shown thus providing a shoulder 5 the purpose of which will be hereinafter described. The upper surface of the bearing block 4 is formed on a gradual downward incline from the shoulder 5 toward the rail engaging portion of the baseplate.

In the inner portion of the bearing block 4 are formed slots 6 having reduced inner portions as shown. In the lower side of the baseplate 1 below each of the slots 6 is formed a recess 7 the purpose of which will hereinafter appear. In the outer portion of the block 4 between the outer ends of the slots 6 and the shoulder 5 are formed short slots 8 said slots passing all the way through the block as shown. In the shoulder 5 of the block opposite the center of each of the slots 8 and communicating therewith is formed a notch or recess 9.

Adapted to be engaged with the block 4 is a rail gripping or clamping member 10 said member comprising a plate 11 which is adapted to engage or fit upon the inclined upper surface of the block 4 as shown.

Formed on the inner end of the plate 11 is an upwardly projecting rail engaging lug 12 which coacts with the lug or member 3 to securely fasten the ends of the rails together and to hold the same in engagement with the baseplate of the chair. The plate 11 is shaped to fit the upper surface of the base and web of the rail and to engage beneath the adjacent under side of the tread or head portion of the rail as shown. The lug 12 serves to brace and securely hold the rail against tilting or upsetting and in order to increase the strength of the lug 12 an integral truss brace 13 is preferably formed on the outer side thereof midway between the ends as shown. On the outer end of the plate 11 is formed a downwardly projecting stop lug 14 said lug being adapted to fit against the shoulder 5 of the bearing block thereby limiting the inward movement of the gripping member 10.

In the inner portion of the plate 11 are formed slots 15 which correspond in size and shape to the slots 6 in the bearing block 4 of the base member said slots coinciding with each other when the plate is arranged on the block. In the outer end of the plate 11 and in the lug 14 are formed slots 16 which correspond in shape to the slots 8 and notches 9 in the adjacent ends of the block 4 and shoulder 5 of the base plate. Adapted to be engaged with the slots 6 in the base plate and the slots 15 in the plate 11 are plate fastening bolts 17 the heads of which fit into the recesses 7 on the lower side of the base 1 thereby holding said bolts against rotation. On the other ends of the bolts 17 are arranged washers and nuts 18 which when screwed down into engagement with the upper side of the plate 11 securely fasten the rail gripping member 10 in position on the base member. Engaged with the slots 16 in the end of the plate 11 and the shoulder 5 and with the notches 9 are clamping bolts 19 the square heads of which fit in the short slots 8 of the block 4 and thereby hold the bolts against rotation. On the projecting outer end of the bolts are arranged washers and clamping nuts 20 which when screwed up into engagement with the lugs 14 tend to force the gripping member inwardly thereby engaging the lug 12 with the rail and clamping the latter between the same and the adjacent stationary lug or member 3 on the baseplate.

In Figs. 5 and 6 of the drawing is shown a slightly modified construction of the baseplate of the chair. In the form of the plate shown in these figures the stationary rail engaging lug 21 of the base plate is of considerably less size or height than the lug 3 shown in the first figures of the drawing. The lug 21 projects upwardly from the base plate to a sufficient extent to engage the edge of the rail flange as shown. On the base plate shown in Fig. 5 adjacent to the lug 21 and on opposite edges of the plate are formed apertured ears 22 with which are engaged the spikes for securing this end of the plate to the tie.

The plate or base of the chair shown in Figs. 7 and 8 of the drawings is formed in the same manner as the plate shown in Figs. 5 and 6 except that the end of the plate having the stationary rail engaging lug is extended a suitable distance to form a switch supporting plate 23 upon which the switch tongue or rail is adapted to ride. The forms of the chair shown in Figs. 5, 6, 7 and 8 are adapted preferably for use in connection with switch rails and curve rails whereby such rails will be securely fastened and braced without interfering with the operation of the switch mechanism.

By means of a chair constructed as herein shown and described the rails may be securely fastened together and to the ties without the necessity of using fishplates or rail bolts thereby greatly increasing the strength of the rails which when fastened in this manner do not require drilling. By means of this chair the rails may be readily removed and replaced when desired without drawing the spikes which hold the chair to the tie.

From the foregoing description taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention as defined in the appended claims.

Having thus described my invention what I claim is:

1. In a rail joint chair, a baseplate having formed on one end a stationary rail engaging lug, a bearing block formed on the opposite ends of said plates, said block having formed therein bolt receiving slots, a rail gripping member adapted to slidably engage said bearing block and having formed therein bolt receiving slots adapted to register with the slots in said bearing block, a rail engaging lug formed on the inner end of said member, and fastening and clamping bolts engaged with said base member and rail gripping member whereby the latter is brought into tight engagement with the side of the rail and the latter thereby clamped in engagement with the chair.

2. In a rail chair a base plate having formed on one end a rail engaging lug, a bearing block formed on the opposite portion of said plate, said block having formed therein bolt receiving slots, a shoulder formed on the outer end of said block, a rail gripping member comprising a plate, slidably engaged with the bearing block on said base plate, said gripping member having formed therein bolt receiving slots adapted to aline with the slots in said block, a rail gripping lug formed on the inner end of said member, a stop lug formed on the outer end of said member, fastening bolts arranged through the slots in said base and gripping member whereby the latter is secured to the base and clamping bolts arranged through the shoulder of said block and through the stop lug on said plate of the gripping member whereby the latter is adjusted to engage the lug on the opposite end thereof with the rail thereby clamping the latter between said lug and the stationary lug on the baseplate.

3. In a rail joint chair a baseplate having formed in its opposite ends spike holes adapted to receive fastening spikes whereby said

base is secured to a tie, a rail engaging lug formed on one end of said baseplate, a bearing block formed on the opposite portion thereof, said block having an incline of the surface and having therein bolt receiving slots, a shoulder formed on the outer end of said block, said shoulder having formed therein bolt receiving slots and notches, a rail gripping member comprising a plate having a sliding engagement with the inclined upper surface of said bearing block, said plate having formed therein bolt receiving slots adapted to coincide with the slots in said block and shoulder, a rail engaging lug formed on the inner edge of said plate, a shoulder engaging stop lug formed on the opposite end of said plate, said stop lug having formed therein bolt receiving slots, fastening bolts arranged in the bearing block and plate of said gripping member and clamping bolts arranged in the slots in said shoulder and stop lug of the bearing block and gripping member whereby the latter is adjusted to clamp the rail ends between the stationary lug on said base plate and the rail engaging lug on said gripping member.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

HUGO CARMAK.

Witnesses:
ROY CLAYTON JUDD,
G. F. FIELDS.