

1,356,629.

P. KANTOR.
RAIL JOINT.
APPLICATION FILED JULY 27, 1920.

Patented Oct. 26, 1920.
2 SHEETS—SHEET 1.

FIG. 1.

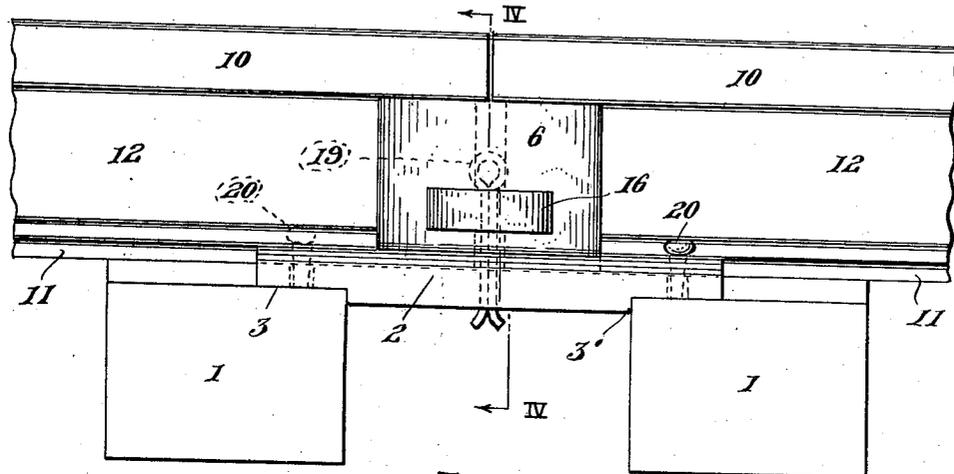


FIG. 2.

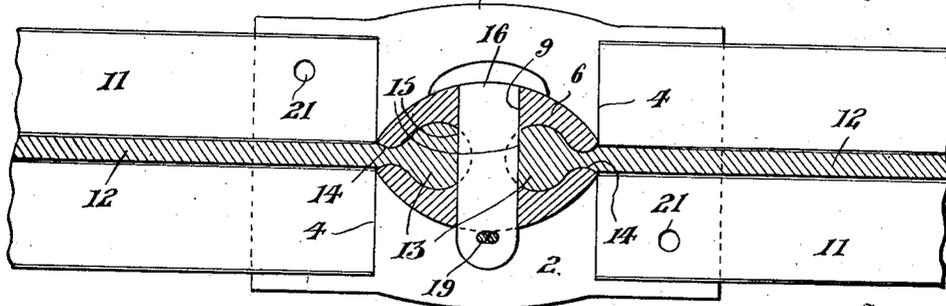
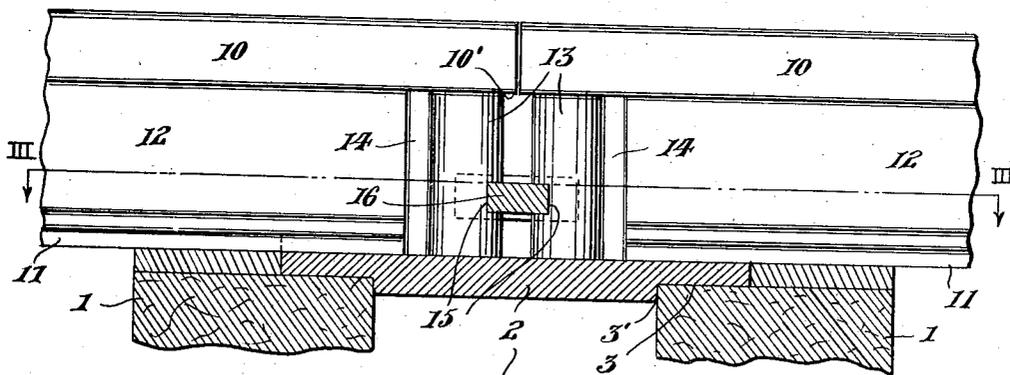


FIG. 3.

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2 SHEETS—SHEET 2.

FIG. 4.

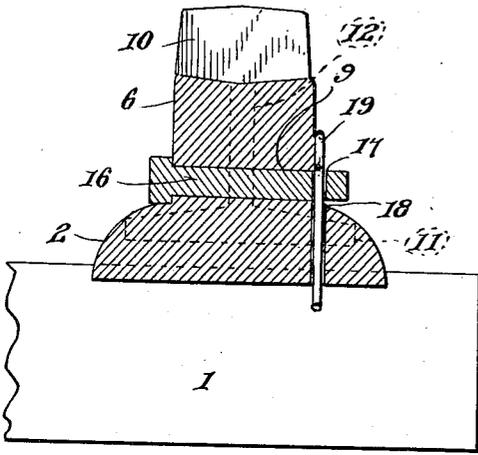


FIG. 5.

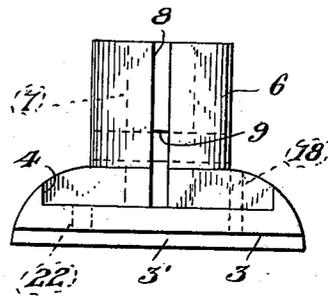


FIG. 6.

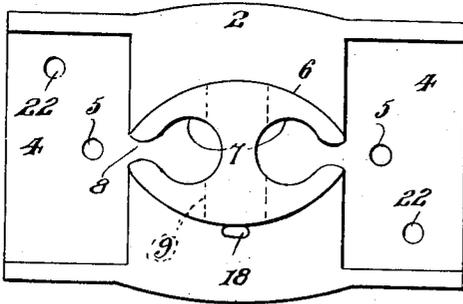


FIG. 8.

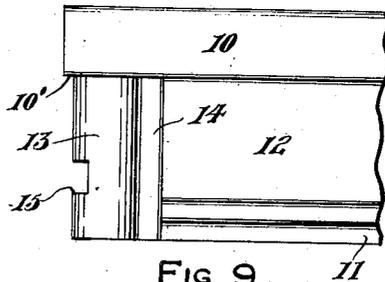
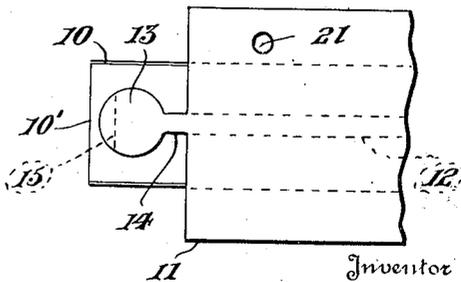
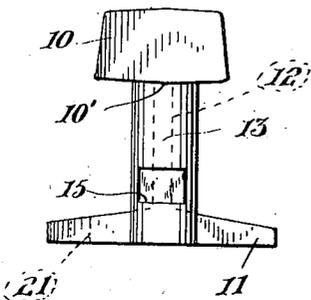


FIG. 7.



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UNITED STATES PATENT OFFICE.

PAUL KANTOR, OF SONMAN, PENNSYLVANIA.

RAIL-JOINT.

1,356,629.

Specification of Letters Patent. Patented Oct. 26, 1920.

Application filed July 27, 1920. Serial No. 399,218.

To all whom it may concern:

Be it known that I, PAUL KANTOR, a citizen of Poland, residing at Sonman, in the county of Cambria and State of Pennsylvania, have invented certain new and useful Improvements in Rail-Joints, of which the following is a specification.

This invention relates to certain new and useful improvements in rail joints and has for its primary object to provide a supporting block or chair for the meeting ends of rails with the block or chair supported on spaced ties while the tread portions of the rails overlie the chair to provide a tread surface.

A further object of the invention resides in the provision of a rail supporting chair for the meeting ends of rail sections wherein the ends of the rails are interlocked with the chair and prevented from relative lateral movement, the device being associated with the rail ends and chair to prevent relative perpendicular movement.

With the above and other objects in view, the present invention consists in the novel form, combination and arrangement of parts hereinafter more fully described in connection with the accompanying drawings and wherein like reference characters indicate similar parts throughout the several views.

In the drawings,

Figure 1 is a side elevational view of a joint chair constructed in accordance with the present invention, a pair of supporting ties being illustrated with the rails broken away,

Fig. 2 is a longitudinal sectional view showing the key engaging the ends of the rail webs to prevent vertical movement,

Fig. 3 is a horizontal sectional view taken on line III—III of Fig. 2 showing the ends of the rails interlocked with the joint chair and the transverse locking key engaging the rail webs,

Fig. 4 is a vertical cross sectional view taken on line IV—IV of Fig. 1,

Fig. 5 is an end elevational view of the joint chair,

Fig. 6 is a top plan view thereof showing the receiving sockets for the ends of the rails,

Fig. 7 is an end elevational view of one of

the rails showing the transverse slot in the rail web for reception of the transverse locking key and

Figs. 8 and 9 are side elevational and bottom plan views respectively of one of the rail ends showing the configuration of the projecting web portion.

Referring more in detail to the accompanying drawings, there is illustrated a joint chair supported on cross ties 1, the chair comprising a base plate 2 having the underside at the ends thereof cut away as at 3 to provide abutting shoulders 3' shown more clearly in Figs. 1, 2, and 5, for engaging the opposed faces of adjacent ties while the cut away portions 3 are countersunk in the supporting ties as illustrated. As shown in Fig. 6, the upper face of the base plate at each end thereof is cut away at each end thereof to provide a seat 4 for the base flanges of the adjacent ends of rails. In mounting the chair upon adjacent ties, securing spikes are passed through the openings 5 formed in the walls of the seats 4, thus to retain the joint chairs anchored on the supporting ties. The central portion of the joint chair is constructed for interlocking engagement with the meeting ends of rails, this construction being more clearly shown in Figs. 3, 5, and 6, in which figures there is illustrated a central block 6 projecting perpendicularly from the base plate 2 and of substantial oval shape in cross section as shown in Figs. 3 and 6. The opposite ends of the block 6 are provided with vertical cylindrical sockets 7 opening at the upper end of the block 6 with the base plate 2 forming a bottom wall therefor while the opposite reduced ends of the block are provided with restricted openings 8 communicating with the sockets 7. A transverse opening 9 is provided in the central block 6 at a point adjacent the lower end thereof and the side walls of said opening intersect the seats 7 thereby providing communication between the transverse opening and the seats.

The meeting rail ends are of identical construction as illustrated, each comprising a tread 10, base flanges 11, and a connecting web 12. As shown in Figs. 7 to 9, the rail web 12 projects beyond the end of the base flanges 11 and is formed into a cylindrical

plug 13 connected to the rail web 12 by a reduced neck portion 14, the plug 13 extending downwardly to the plane of the lower face of the base flanges, the tread 10 retaining its usual configuration and projecting beyond the base flanges, web and plug 13 as shown at 10' in Figs. 8 and 9. For purposes presently to appear, the end face of the plug 13 is provided with a transverse slot 15.

In assembling the rail sections in the joint chair, it being understood that the chair is secured to adjacent ties as above described, the rail ends are elevated with respect to the joint chair with the web plug members 13 overlying the seats 7 in the chair block 6, it being understood that the plugs 13 are of a diameter substantially equal to the diameter of said seats, the plugs 13 being lowered thereinto with the connecting neck portions 14 passing through the end openings 8 of the block and when the rail ends are completely lowered, relative lateral or axial movement of the rail ends is prevented. When so positioned, the transverse slots 15 in the plugs 13 register with the central transverse opening 9 in the block 6, thus providing a key-way within which the headed key 16 is inserted, the reduced projecting end of the key being provided with an opening 17 registering with an opening 18 in the base plate 2 through which openings the cotter pin 19 is inserted, thereby retaining the key 16 in position with the key entering the plug slots 15 to prevent vertical movement of the rail ends with respect to the joint chair. As a further means for retaining the chair and rails to the ties, spikes 20 are passed through registering openings 21 and 22 formed in the base flanges 11 of the rails and the seats 4 of the joint chair, respectively. With this type of connection, relative movements of the rail ends is entirely eliminated and the rail sections are securely locked to the supporting ties, the form of chair herein disclosed being extremely simple in point of construction and inexpensive to manufacture, the same embodying comparatively few parts and also being of a nature whereby a quick assembling thereof may be accomplished.

While there is herein shown and described the preferred embodiment of the invention, it is nevertheless to be understood that minor changes may be made therein with-

out departing from the spirit and scope of the invention as claimed.

What is claimed as new is:

1. In combination, a joint chair comprising a base plate, a central block carried thereby, the opposite ends of said block being provided with perpendicular cylindrical seats having reduced openings at the ends of the block and meeting rail ends having cylindrical plugs carried by the web portions thereof received in said seats with the rail treads overlying said block and means for anchoring the chair and rails to the ties.

2. In combination, a joint chair comprising a base plate, a central block carried thereby, the opposite ends of said block being provided with perpendicular cylindrical seats having reduced openings at the ends of the block and meeting rail ends having cylindrical plugs carried by the web portions thereof received in said seats with the rail treads overlying said block, means for anchoring the chair and rails to the ties, and means for locking the rail plugs within the chair block.

3. In combination, a joint chair comprising a base plate, a central block carried thereby, the opposite ends of said block being provided with perpendicular cylindrical seats having reduced openings at the ends of the block and meeting rail ends having cylindrical plugs carried by the web portions thereof received in said seats with the rail treads overlying said block, means for anchoring the chair and rails to the ties, and means engaging the block and rail plugs to lock the rails within the block.

4. In combination, a joint chair comprising a base plate, a central block carried thereby, the opposite ends of said block being provided with perpendicular cylindrical seats having reduced openings at the ends of the block and meeting rail ends having cylindrical plugs carried by the web portions thereof received in said seats with the rail tread overlying said block, means for anchoring the chair and rails to the ties, said block having a transverse opening therein, and end slots formed in said plugs registering with said opening and a key inserted in said block opening and entering the plug slots to lock the rail ends in the block.

In testimony whereof I affix my signature.
PAUL KANTOR.