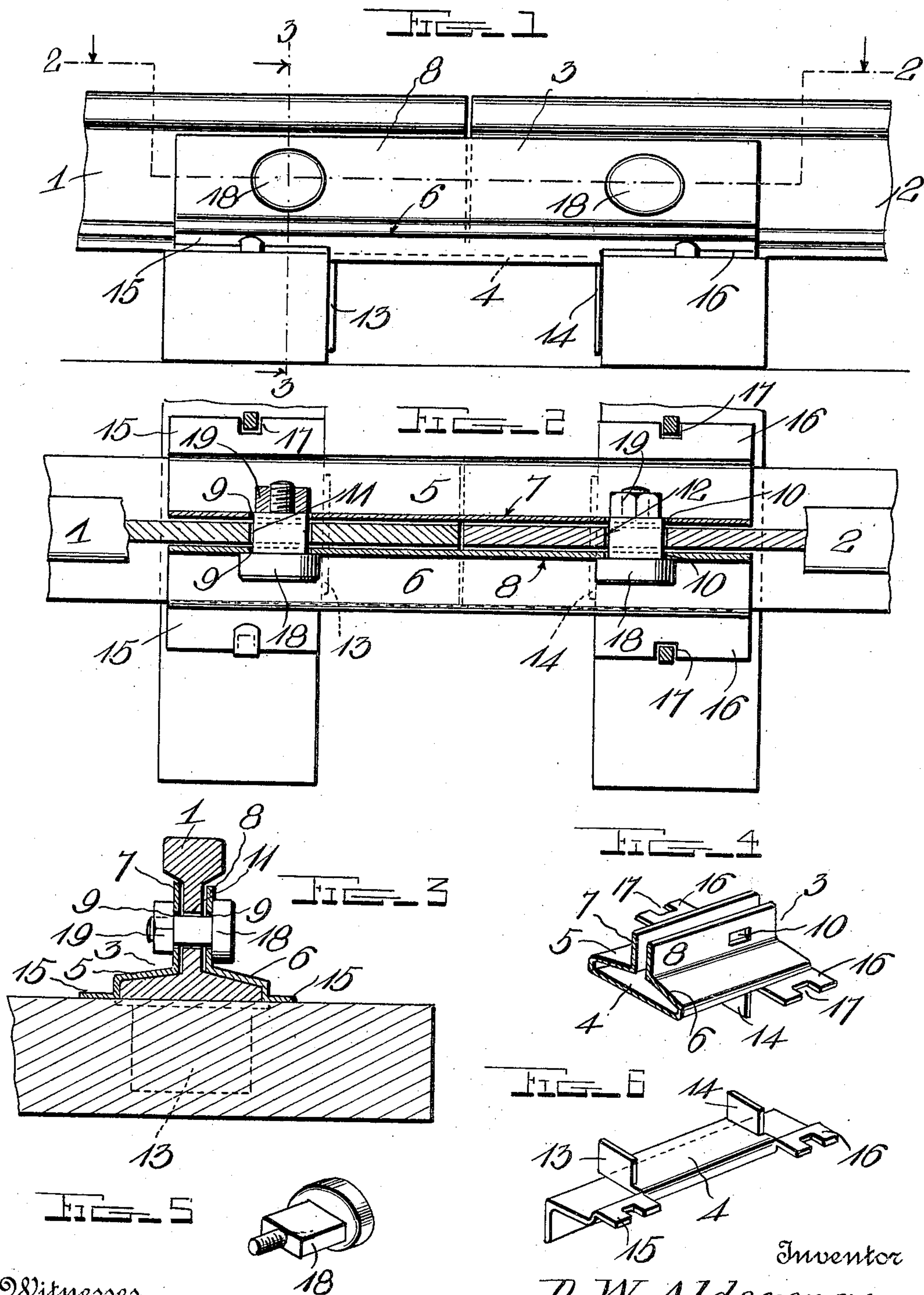


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RAIL JOINT.  
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934,705.

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# UNITED STATES PATENT OFFICE.

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## RAIL-JOINT.

934,705.

Specification of Letters Patent. Patented Sept. 21, 1909.

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*To all whom it may concern:*

Be it known that I, DANIEL W. ALDERMAN, a citizen of the United States, residing at Covington, in the county of Alleghany and State of Virginia, have invented certain new and useful Improvements in Rail-Joints; 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 an improved rail joint and the object thereof is to provide a joint which is especially constructed to prevent creeping and provided with depending flanges or stops which may be arranged either between the ties to abut against the opposite faces of adjacent ties or arranged to span a single tie and engage the opposite faces thereof.

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

In the accompanying drawings, Figure 1 is a side elevation, showing this improved device applied; Fig. 2 is a horizontal section taken on the line 2—2 of Fig. 1; Fig. 3 is a transverse section taken on the line 3—3 of Fig. 1; Fig. 4 is a sectional perspective view of a portion of the chair; Fig. 5 is a perspective view of one of the locking keys detached; Fig. 6 is a perspective view of one portion of a modified form of chair.

In the embodiment shown in Fig. 1, two rail sections 1 and 2 of ordinary construction are shown joined by this improved rail joint 3 which is preferably made in one piece to hold both rails at the same level and thereby provide a safety joint. As shown in Fig. 1, this improved joint 3 comprises a seat plate 4 of a width corresponding to the width of the base of the ordinary rails and upon which the base of the rails is designed to rest. The opposite sides 5 and 6 of this base plate are bent inwardly toward each other and spaced slightly from the seat plate 4 a suitable distance to provide for the insertion of the flanges of the rails therebetween. These inwardly bent side members 5 and 6 are of a width slightly less than the width of the base flanges of the rail and the free ends thereof are bent upwardly to form

vertically disposed splice bars 7 and 8 which are designed to engage the opposite faces of the webs of the rail sections 1 and 2 and are provided with registering apertures 9 and 10 which also register with apertures 11 and 12 extending through the webs of the rail sections 1 and 2. These splice bars 7 and 8 have their free edges arranged in position to engage the lower face of the tread of the rails.

The opposite ends of the seat plate 4 are slit longitudinally on opposite sides at points near the folded edge thereof and these ends 13 and 14 are bent downwardly at right angles to the plate 4 to form stops for engaging the ties and thereby prevent creeping of the joint. The portions 15 and 16 at the ends of the plate 4 are bent laterally in position to engage the upper faces of the ties and are provided with notches as 17 to receive the spikes for securing the joint to the ties.

Bolts or keys, as 18, constructed as shown in detail in Fig. 5, are preferably used for connecting the splice bars 7 and 8 with the rail sections 1 and 2 and these bolts or keys are designed to prevent the rails from slipping longitudinally out of the joint and for taking up any lost motion or wear that might occur.

In the application of this improved joint, it will be slipped on the end of one rail section into the proper position to bring the apertures in the splice bars 7 and 8 in register with the aperture in the rail section when a key bolt 18 will be passed through said registering apertures and secured in position by means of the ordinary nut 19 screwed on the reduced outer end thereof. The end of the other rail section 2 will then be slipped in the open end of the joint until it abuts against the end of section 1 and a similar bolt 18 will be passed through the registering apertures in the splice bars and in said section whereby the rails are held against longitudinal movement. The stops 13 and 14 are preferably disposed between two ties in position to abut against the opposite faces thereof and thereby prevent the creeping of the joint. By the use of this joint, it will be seen that if the bolts or keys 18 should break or become loose, the joint would remain perfectly safe to run trains over for some time until the bolts could be replaced, and this solid joint also permits free expansion.



sion and contraction, as it does not depend upon the bolts to draw and bind the splice bars against the sides of the rails and there is consequently no danger of the rails being  
5 clamped so tightly by the splice bars that they cannot move longitudinally. This tight clamping of the splice bars often causes the track to buckle and produces serious wrecks. The use of this improved key bolt 18, the flat  
10 portion of which extends through the rail, greatly prolongs the life of the bolt as the end of the key which forms the bolt is so arranged that it has but one duty to perform, and that is to hold the key in place, as  
15 the greater strain comes directly on the key and not on the threaded end thereof, thereby preventing the threads from becoming worn off and damaged.

The modified form shown in Fig. 6 is constructed the same as that shown in the other figures except that the joint is divided longitudinally through the center of the seat plate 4 to form two pieces, otherwise the construction and operation is the same as that above  
25 described.

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.  
30

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  
35 the invention, as defined in the appended claims.

Having thus described my invention, what I claim is:

1. A rail joint comprising a seat plate for  
40 the rail sections having longitudinally spaced stops extending downwardly at right angles

thereto and transversely thereof, the opposite sides of said plate being bent inwardly toward each other and spaced slightly above the inner face of the seat plate and then  
45 bent upwardly at right angles to form splice bars for engaging the opposite faces of the webs of the rail sections to be connected, and means for connecting said splice bars with the rail sections to prevent longitudinal  
50 movement of the latter.

2. A one-piece rail joint comprising a seat plate for the rail sections having longitudinally spaced stops extending downwardly at right angles thereto and transversely  
55 thereof, the opposite sides of said plate being bent inwardly toward each other and spaced slightly above the inner face of the seat plate and then bent upwardly at right angles to form splice bars for engaging the opposite  
60 faces of the webs of the rail sections to be connected, and laterally extending apertured flanges arranged at opposite sides of said joint.

3. A rail joint comprising a seat plate with  
65 its opposite ends split longitudinally near the edges of the rail base and bent downwardly to form longitudinally spaced transversely extending stops, the opposite sides of said seat plate being bent inwardly toward  
70 each other and then upwardly at right angles to form splice bars, said splice bars having longitudinally spaced registering bolt apertures.

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

DANIEL W. ALDERMAN.

Witnesses:

C. C. PHARR,  
G. D. KLINE.