

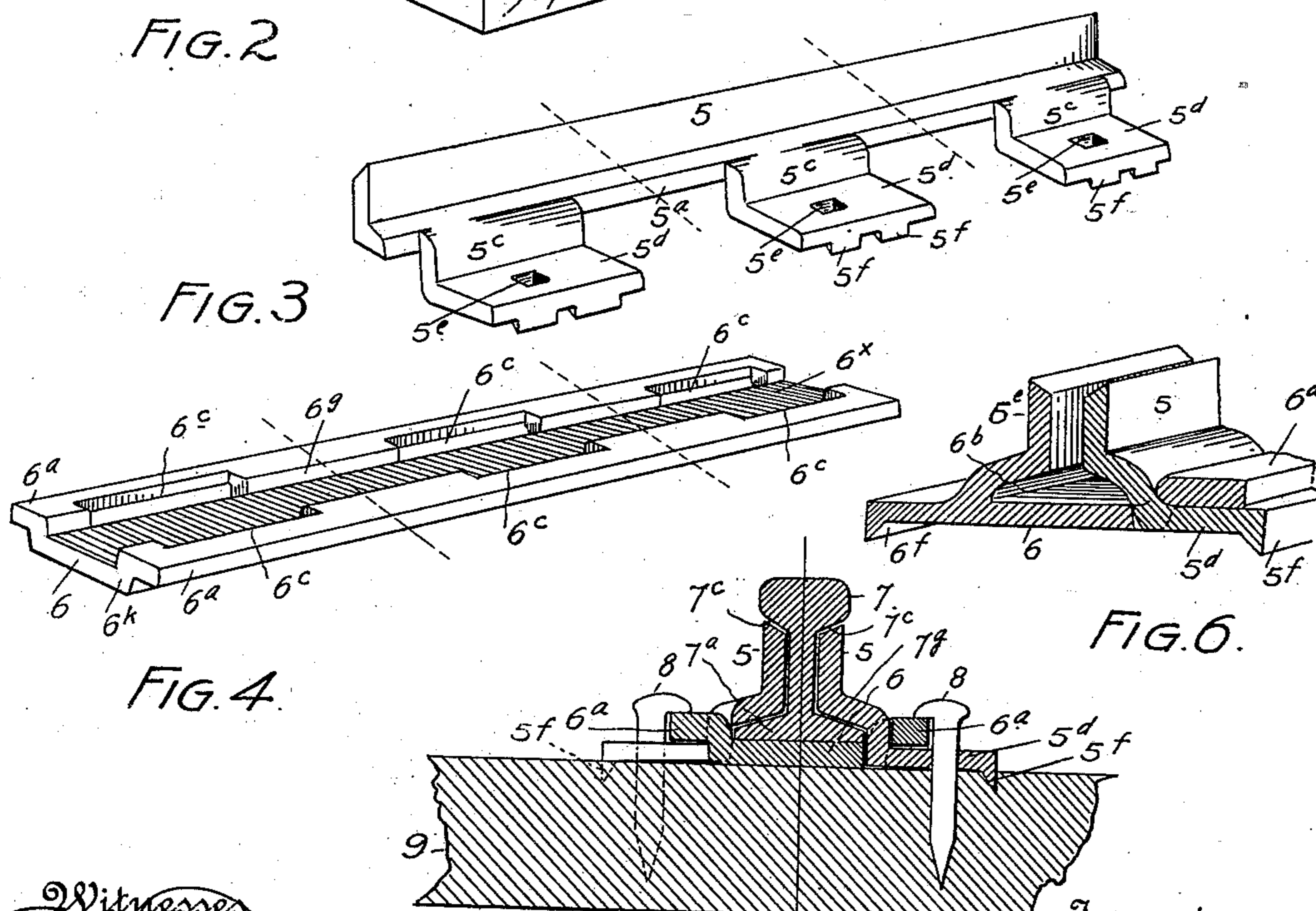
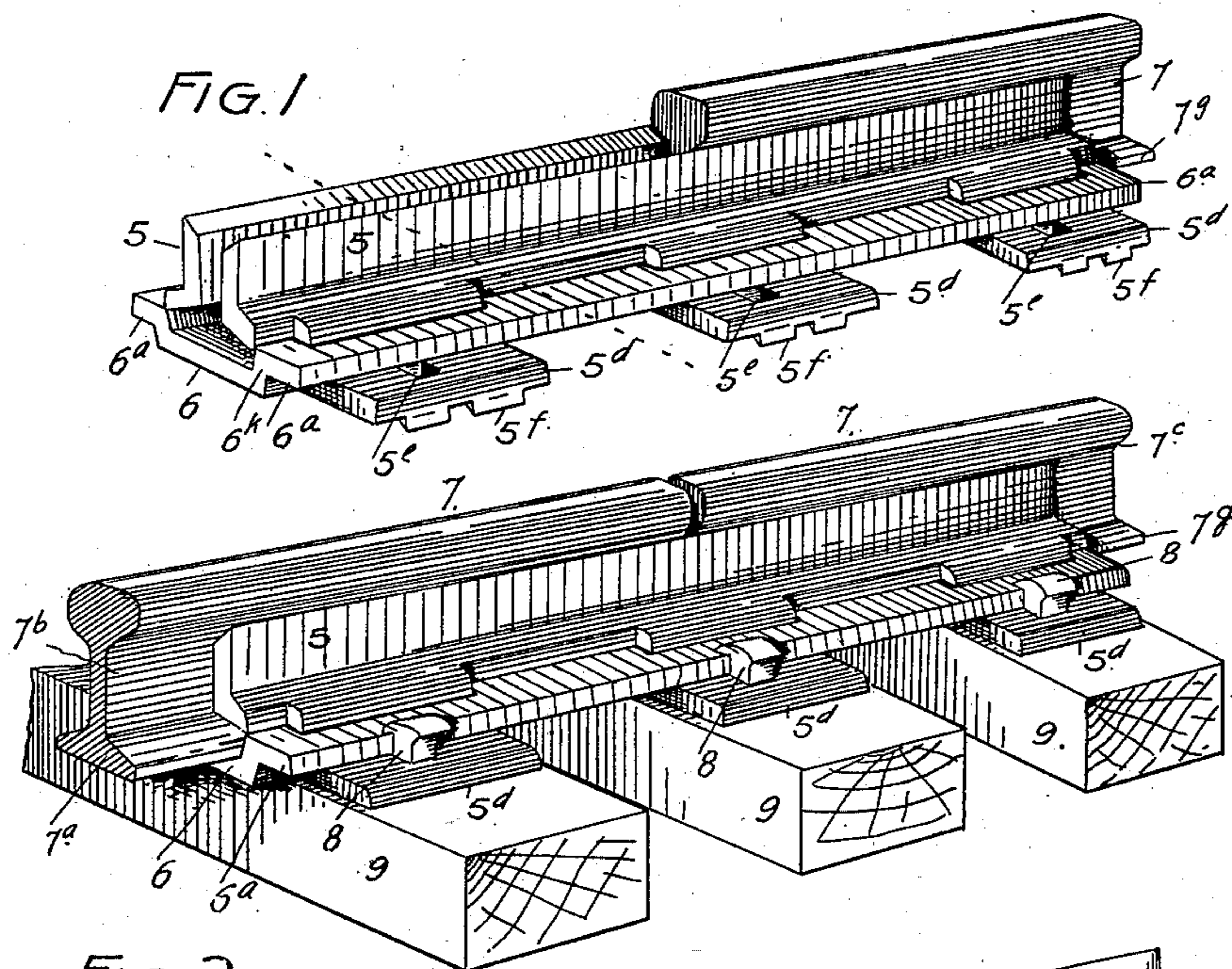
No. 665,984.

Patented Jan. 15, 1901.

N. G. VOSLER.
RAIL JOINT LOCK.

(Application filed Apr. 12, 1898. Renewed June 19, 1900.)

(No Model.)



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RAIL-JOINT LOCK.

SPECIFICATION forming part of Letters Patent No. 665,984, dated January 15, 1901.

Application filed April 12, 1898. Renewed June 19, 1900. Serial No. 20,908. (No model.)

To all whom it may concern:

Be it known that I, NEWTON G. VOSLER, a citizen of the United States, residing at Fort Collins, in the county of Larimer and State of Colorado, have invented certain new and useful Improvements in Rail-Joint Locks; and I do hereby declare the following to be a full, clear, and exact description of the same, 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 devices for securing or locking together the meeting ends of railway-rails, the object of the invention being the production of a simple, inexpensive, and effective means by which the rail ends may be maintained in top and side alinement without the necessity of employing bolts and nuts, thereby dispensing with the usual bolt-holes, which tend to weaken the structure, also by which the rails are permitted independent movement under contraction and expansion and are prevented from spreading at the joints.

Other advantages peculiar to my invention are set forth in the following description, which is directed to the details of construction and which is to be read in connection with the accompanying drawings, forming a part thereof.

In the said drawings, Figure 1 is a perspective view of a rail-joint lock embodying my invention, one of the rail ends being omitted. Fig. 2 is a perspective view of the complete rail-joint. Fig. 3 is a perspective view of one of the angle-plates forming a part of the structure. Fig. 4 is a perspective view of the base-plate. Fig. 5 is a cross-sectional view of the complete rail-joint, and Fig. 6 is a perspective view of a lock, showing a modification.

Referring to the said drawings by numerals, 6 denotes the base-plate, the sides of which are offset at 6^k to provide elevated flanges 6^a, the lower side of the latter being approximately in the plane of the upper surface 6^x of the plate, on which rests the base 7^a of the rails 7 7. In each of the flanges 6^a are rectangular slots 6^c, there being shown three on each side, though obviously one or more may be employed.

5 5 denote angle-plates between which in practice the rail ends are confined, the said

plates conforming to the under side of the rail-head 7^c, the web 7^b, the upper side of the base 7^a, and the edge 7^s of said base. The offsets 6^k in the base-plate provide shoulders, against which abut the edges 7^s of the rail-base, and with the angle-plates in place the rail ends are securely held against lateral movement, and top and side alinement of the rails is maintained. Each of the angle-plates is provided with one or more angle projections or knees depending from the base portion 5^a of the plate, and in practice the vertical portion 5^c of the knee occupies a slot 6^c of the base-plate, and the horizontal portion 5^d projects outwardly from beneath the elevated flange 6^a and is provided with a hole 5^e to receive a spike 8. The portion 5^d of the knees rests on a cross-tie 9, and at the outer side of said portion are downwardly-projecting teeth 5^f, which enter the tie when the spikes are driven home. The holes 5^e are so located as that when a spike is driven therethrough into the tie the lip and side of the spike engage the outer edge of the elevated flange 6^a, the result being that the angle-plates are forcibly held in close contact with the rail ends and the parts rigidly connected, this rigidity being augmented when the weight of a train is brought to bear on the rails owing to the suspension of the joint between the points where it is spiked to the tie. The provision of the teeth 5^f insures against spreading of the rails at the joints, as by entering the tie crosswise of the grain rigid shoulders are formed, which prevent lateral movement, and strain on the spikes is thereby materially relieved.

The locking device, it will be observed, is comprised of but three parts, two of which are duplicates of each other. Such simplicity of construction enables low cost of production and insures in practice durability and non-liability to disorder. In Fig. 6 is shown a construction involving but two parts or sections; otherwise it is similar in all respects to the aforescribed construction. Referring to this figure, it will be noted that one of the angle-plates (denoted by the numeral 6^e) is made integrally with the base-plate and provides a recess 6^b, which receives one side of the rail and provides a rigid lateral support therefor. The only other part of this lock is an angle-plate, which is constructed and ap-

plied in a manner similar to that previously described with reference to the plate 5.

In assembling the parts to form the joint, the knees of the angle-plates are inserted in the slots of the base-plate, and said plates are then separated at their upper ends sufficiently to admit the rail ends, after which the angle-plates are brought against the rails and the spikes driven. When the operation is complete, it will be found that the parts of the lock are in close conformity to the shape of the rail in cross-section, and that in consequence the rail ends are tightly clamped in a manner to insure side and top alignment, and that the engagement of the teeth with the ties crosswise of the grain of the latter, in conjunction with the driven spikes, effectually precludes spreading and displacement in other directions. The absence of bolts and like devices commonly employed not only results in cheapening the construction and adding strength to the joint, but facilitates the work of assembling the parts and also insures maintenance and durability despite the hardest usage. Another important advantage due to the present construction lies in the provision for endwise movement of the rails under contraction and expansion. The clamping action of the angle-plates, while preventing lateral movement of the rails, in no way impedes longitudinal movement, and as a consequence the joint is unaffected by the elongation or shortening of the rails.

My improved rail-joint lock combines simplicity and cheapness of construction with strength and durability, and the parts may be easily and quickly assembled.

Aside from the application of the invention to rail-joint locks the device may be employed between the joints on those portions of the track, such as curves, which are subjected to excessive side pressure or strain or, in other words, can be substituted for the expensive

and cumbersome chair now employed at these track portions.

I claim as my invention—

1. A rail-joint lock comprising a slotted base-plate adapted to be interposed between the rail and tie, and angle-plates between which the rail is to be confined having knees adapted to be passed through the slots in the base-plate and to be spiked to the tie, substantially as described.

2. A rail-joint lock comprising a base-plate having elevated side flanges formed by offsets in said plate and having slots in said flanges, and angle-plates between which and the base-plate the rail is to be confined, said angle-plates having angle-knees adapted to be passed through the plate-slots and having spike-holes, substantially as described.

3. A rail-joint lock comprising a base-plate having slotted side flanges, and angle-plates between which and the base-plate the rail is adapted to be confined, and knees on said angle-plates adapted to be passed through the slots in the base-plate and to be spiked to the tie, and having depending teeth adapted to enter the latter, substantially as described.

4. A rail-joint lock comprising a base-plate having elevated side flanges formed by offsets in said plate and having slots in said flanges, and angle-plates between which and the base-plate the rail is to be confined, said angle-plates having angle-knees adapted to be passed through the slots in the plate and to project beyond the flange, said knees having spike-holes so located as to cause the side and lip of the spike to engage the flange, and teeth depending from the outer end of the knees and adapted to enter the tie, substantially as described.

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