(No Model.)

R. E. GREENWELL.

RAILWAY JOINT.

No. 486,775. Patented Nov. 22, 1892.

Fig. 1.

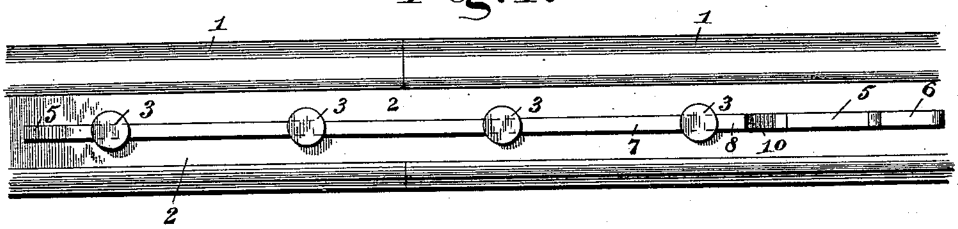


Fig. 2.

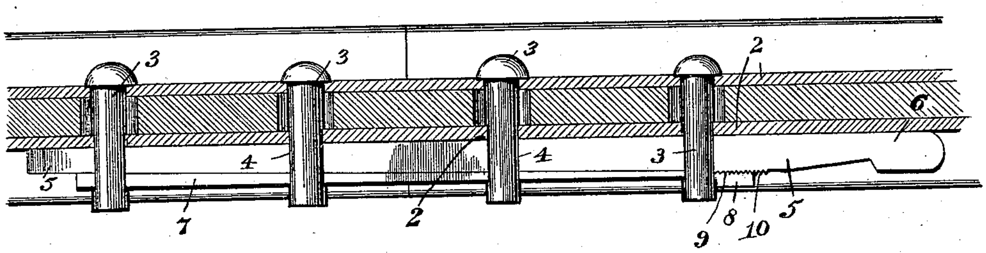
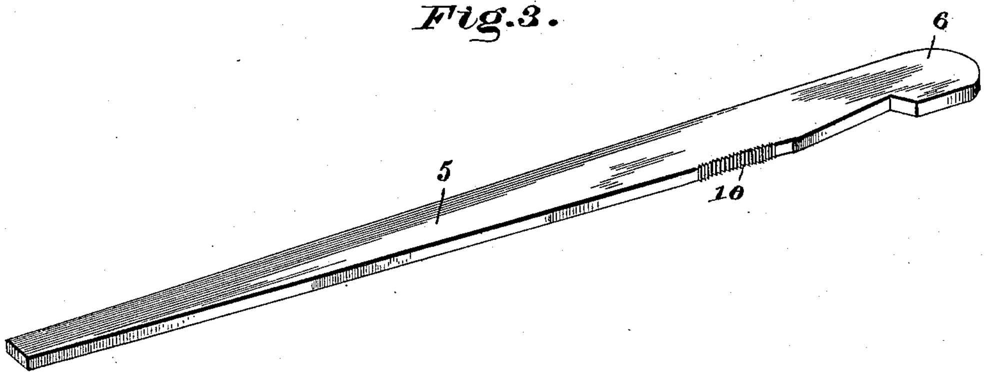


Fig. 3.



Witnesses

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ROBERT E. GREENWELL, OF WACO, TEXAS.

RAILWAY-JOINT.

SPECIFICATION forming part of Letters Patent No. 486,775, dated November 22, 1892.

Application filed February 6, 1892. Serial No. 420,492. (No model.)

To all whom it may concern:

Be it known that I, ROBERT E. GREENWELL, a citizen of the United States, residing at Waco, in the county of McLennan and State of Texas, have invented a new and useful Railway-Joint, of which the following is a specification.

My invention relates to improvements in railway-joints of that class employing slotted bolts and wedges for locking the bolts against withdrawal, and has particular reference to an improvement upon my patent, No. 227,519, granted May 11, 1880.

In the construction as described in this patent the fish-plate at the outer side of the joint declined from opposite sides of its transverse center, and in rolling the plate considerable trouble was experienced in producing these declining sides or surfaces, which of course added to the cost of producing the joint.

My present invention has for one of its objects to omit the declining surfaces of the fish-plate and to employ in conjunction with my other devices or wedges an ordinary fish-plate, whereby the invention may be applied to the joints of rails now in use without any change whatever either to the fish-plates or the bolts.

A further object of my invention is to so construct the wedging-keys that they may be inserted one at a time in contradistinction to the usual necessity of simultaneous insertion at the opposite ends of the series of bolts employed in the joint, and finally to provide a cheap and convenient means inherent in the wedges themselves whereby they become locked against removal independent of their wedging action.

With these objects in view the invention consists in certain features of construction hereinafter specified, and particularly pointed out in the claim.

Referring to the drawings, Figure 1 is an elevation of a joint constructed in accordance with my invention. Fig. 2 is a horizontal section through the web of the rail. Fig. 3 is a detail of the main wedge.

Like numerals of reference indicate like parts in all the figures of the drawings.

The rail-sections 1 have their meeting ends lapped by the fish-plates 2, the webs of the rail-sections and the fish-plates being coincidently perforated for the passage of the bolts 3, the latter having their outer ends slotted, as at 4, beyond the face of the outer fish-plate. So far I have described a construction of joint now in common use.

5 designates the main wedge, and the same, as shown, has its outer side tapered and terminates at its enlarged end in a head 6. The greatest width of the wedge is somewhat less than the length of the slots of the bolts, so that when the wedge is in position portions of the slots of the bolts are unoccupied, the unoccupied portions of course increasing toward the tapered end of the wedge. These portions are occupied by a secondary wedge 7, which has its inner face oppositely tapered to that of the main wedge, and at its reduced end is provided with an enlarged head or shoulder 8, formed upon its outer side. Immediately (in this instance) in rear of the shoulder 8 the rear face of the secondary wedge 7 is provided with slight transverse indentations 9, and the outer face of the main wedge is provided with a series of shallow transverse teeth or corrugations 10.

In forming the joint the wedge 7 is first introduced large end first until its shoulder 8 arrives in contact with the first bolt of the series, which arrests the movement of said secondary wedge. When this secondary wedge is in position, it will be seen that the space between its rear face and that of the fish-plate adjacent thereto is slightly tapered, and it is now only necessary to drive the main wedge 5 into the slots of the bolts between the fish-plate and the secondary wedge, the inclined outer face of the main wedge binding against the contrarily inclined or tapered inner face of the secondary wedge. The reduction of the secondary wedge at its narrowest end, directly in front of the before-mentioned shoulder 8, permits of a very slight almost imperceptible yielding of this shoulder, and consequently when the main wedge is driven to position the shallow corrugations or teeth formed therein ride over and engage with those of the secondary wedge 7. It will be seen from this that the wedges not only have their wedging action to depend upon in order to prevent a working loose of the joint, but

also interlock to such a degree as to prevent one from working loose without the other, and consequently an exceedingly-tight safe joint is most readily formed. It will be obvious that the two wedges are inserted from the same end of the series of bolts, and the shoulder 8 of the secondary wedge, in addition to forming a portion suitable for the formation of the transverse corrugations, also constitutes a stop, which will permit of the introduction of the main wedge at the same side at which the secondary wedge is introduced without any danger whatever of forcing the secondary wedge by reason of such introduction of the main wedge from the slots in the bolt.

Having described my invention, what I claim is—

In a railway-joint, the combination, with the webs, fish-plates, and slotted bolts passing therethrough, of the main key longer than the series of bolts and terminating beyond the same in a head, said key being gradually tapered from a point in rear of its head and beyond the series of bolts toward its opposite end and at the beginning of its taper provided with a series of serrations or teeth, and the secondary key located in the slots of the bolts longer than the series of bolts tapered reversely to the main key and at its reduced end provided with a head or stop beyond the bolts, the inner face of which is serrated or toothed to engage those of the main key, that portion of the secondary key in rear of its head being reduced to such an extent as to produce a resilient or spring portion, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ROBERT E. GREENWELL.

Witnesses:

HORACE G. PIERSON,

JNO. H. SIGGERS.