A. A. WILDER.

Bolt-Locks for Rail-Joints.

No. 196,064. Patented Oct. 9, 1877.

Fig. 1.

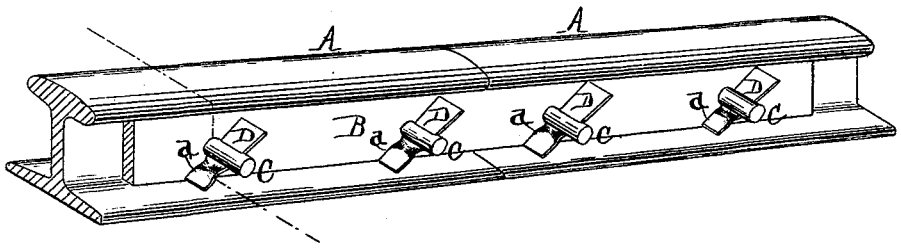


Fig. 2.

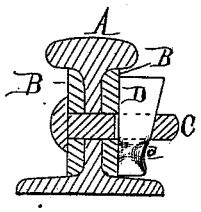
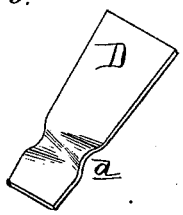


Fig. 3.



Attest:
Edward Bartlett.
Rudolf Tahr.

Inventor.
A. A. Wilder
By Atty
Thos. S. Sprague

UNITED STATES PATENT OFFICE.

ARETUS A. WILDER, OF DETROIT, MICHIGAN, ASSIGNOR OF ONE-HALF HIS RIGHT TO CORYDON B. PALMER, OF SAME PLACE.

IMPROVEMENT IN BOLT-LOCKS FOR RAIL-JOINTS.

Specification forming part of Letters Patent No. **196,064**, dated October 9, 1877; application filed January 4, 1877.

To all whom it may concern:

Be it known that I, ARETUS A. WILDER, of Detroit, in the county of Wayne and State of Michigan, have invented an Improved Rail-Joint, of which the following is a specification:

The object I have in view is to provide a simple and cheap fastening for rail-joints, which will not only secure the rails firmly in their places, but will render it impossible for trains to be wrecked with the means usually accessible to wreckers; and the invention which I have made consists, mainly, in applying to a slotted fish-plate bolt a wedging-key, and in securing the key in the slot by a twist in the same, all as more fully hereinafter explained.

In order that those skilled in the art may know how to make and apply my improvement, I proceed to describe the same, having reference to the drawing, in which—

Figure 1 is a perspective view of my rail-joint; Fig. 2, a cross-section through one of the bolt-holes and its bolt, and Fig. 3 a perspective view of the key as twisted in position.

Like letters denote corresponding parts in each figure.

A A represent railroad-rails; B B, fish-plates, and C the fish-plate bolts, which pass through the rails and fish-plates. These bolts are smooth bolts without screw-threads, with heads, and with bodies of uniform size, and slotted in such a way that the inner edge of the slot shall be within the fish-plate. Through this slot the thin tapering key D is driven, so that it wedges between the outer end of the slot and the side of the fish-plate, and thereby holds both rails and fish-plates firmly together.

After this key, which should be made of tough iron, is thus wedged into position, I secure it in place by giving it a twist, *a*, with a proper tool, which is applied to the key close to the bolt, and between the bolt and the small end of the key.

It follows, then, that the key cannot be driven out by stones or hammers, or, indeed, by blows upon the small end of the key, because such blows would only tend to bend the end of the key or increase the corrugations already in it, and can only be removed after the twist is taken out of the key by some suitable tool and its original plane surfaces restored.

It will be observed that by my improvement (employing a common cylindrical bolt) I am enabled to dispense altogether with the nut at the end of the fish-plate bolt, as well as the usual screw-thread upon the same, and thereby get a cheaper contrivance, and one which can be applied more readily.

I am aware that slotted fish-plate bolts and wedging-keys have been previously employed by others, and that springs have been used to hold such keys in place, and it has been sought to fasten a key by simply bending the smaller end of it to one side; and I disclaim all such as not coming within the spirit of my invention, or as constituting a rail-joint where the rails cannot be removed by appliances ordinarily at hand.

What I do claim as new and my invention is—

In a rail-joint, and in combination with the fish-plates and the cylindrical slotted bolt C, the wedging-key D, having a twist, as described, in its smallest end, between the bolt and the end of the key, substantially as and for the purposes set forth.

ARETUS A. WILDER.

Witnesses:
H. S. SPRAGUE,
CHAS. J. HUNT.