

(No Model.)

J. TYZICK & J. F. LAWTON.
BOLT AND FASTENING DEVICE FOR FISH PLATES.

No. 556,836.

Patented Mar. 24, 1896.

Fig. 1.

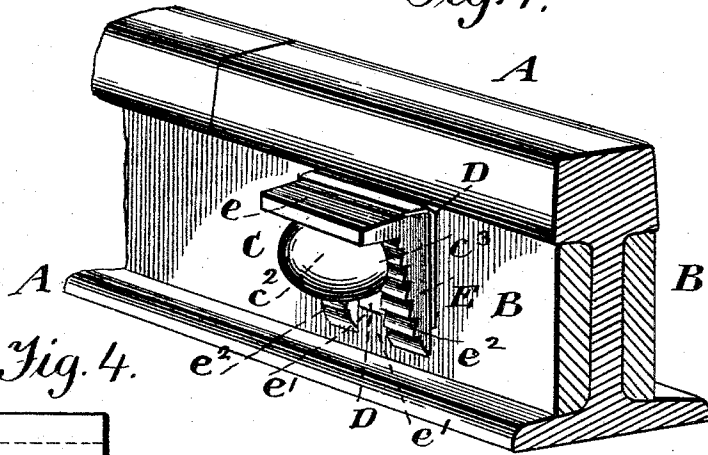


Fig. 4.

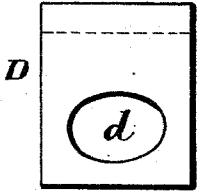


Fig. 2.

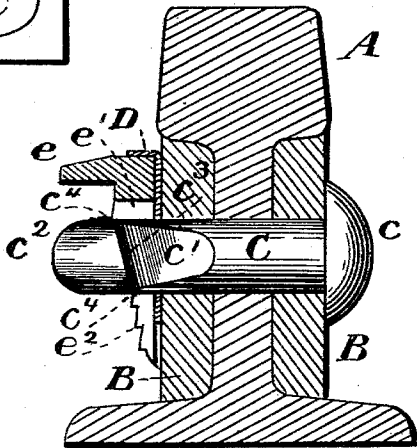


Fig. 3.

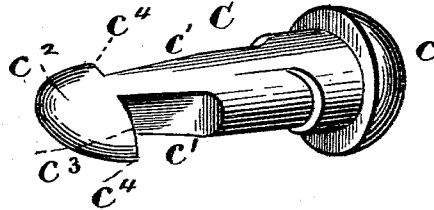
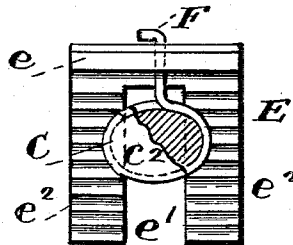


Fig. 5.



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BOLT AND FASTENING DEVICE FOR FISH-PLATES.

SPECIFICATION forming part of Letters Patent No. 556,836, dated March 24, 1896.

Application filed May 11, 1894. Serial No. 510,946. (No model.)

To all whom it may concern:

Be it known that we, JAMES TYZICK and JAMES FREDERIC LAWTON, subjects of the Queen of Great Britain, residing at St. John, in the county of St. John, Province of New Brunswick, and Dominion of Canada, have invented a new and Improved Bolt and Fastening Device for Fish-Plates, &c., of which the following is a full, clear, and exact description.

This invention relates generally to a bolt and fastening device for fish-plates; but it is equally well adapted for fastenings in other constructions, the object of our invention being to provide a cheap, simple and efficient substitute for the ordinary threaded nut, and also to dispense with the threaded bolt.

Our invention consists in certain details of construction and novelties of combination, all of which will be fully described, and then pointed out in the claim.

In the drawings forming a part of this specification, Figure 1 is a perspective view of our device as applied to a fish-plate bolt. Fig. 2 is a vertical sectional view of the same. Fig. 3 is a detail view of the bolt. Fig. 4 is a detail view of the key or washer, and Fig. 5 shows different forms of the devices for holding the key or washer in place.

Referring to the drawings, A indicates a section of railroad-rail, and B the fish-plates thereon. Passing through the rail and plates is a bolt C, having the usual head *c*, but at its opposite end the sides of the bolt are cut away, as shown at *c'*, thus providing an arrow or T-shaped end *c²*. The bolt is also essentially oval or elliptical in cross-section, and the rear faces *c³* of the end *c²* are inclined, as shown, providing sharp edges *c⁴*, the purpose of which will appear farther on.

Upon the bolt C is preferably arranged a metallic retaining-plate D, said plate having an oval or elliptical opening *d* to receive the bolt C.

Between the end *c²* of the bolt C and the plate D is forced a wedge-shaped key or washer E, said key or washer having a flange or shoulder *e* and a longitudinal slot *e'*, by which latter means the washer is made to straddle the bolt to the rear of its end *c²*, and inasmuch as the forward face of this key or washer is inclined and slides upon the inclined surfaces *c³* the fish-plates B will be

bound securely and also the bolt. The inclined surface of the washer is also formed with regular serrations *e²*, which will engage the sharp edges *c⁴* and hold the key or washer securely in place upon the bolt.

After the parts have been assembled as above described the portion of the plate D projecting beyond the flange or shoulder *e* may be bent down upon said flange or shoulder, thus securely locking said washer E upon the bolt and preventing its turning or jarring off.

If desired, the plate D may be dispensed with and a retaining-wire F, such as shown in Fig. 5, may be employed, and in this construction a perforation is made in the flange *e*, in which one end of the wire is secured, while the opposite end of the wire is passed around and secured to the end of the bolt C, which end, in this instance, will have a groove to receive the wire.

Either form of retaining device may be used, or, if desired, all of them can be used at one and the same time.

In operation the bolt C is passed through the parts to be secured and the plate D arranged in place. The key or washer E is then forced astride the bolt C, and, the inclined faces of the key and bolt end contacting, the parts will be bound tightly together. The plate D is then bent to lock the key or washer.

It will thus be seen that we provide an exceedingly cheap, simple and efficient device for securing the fish-plates and bolts, and it will also be seen that we dispense with the expensive threaded bolt and nut and provide a cheap and safe substitute therefor, and one that can be assembled and removed much easier and quicker than an ordinary nut.

Having thus described our invention, what we claim is—

In combination, a bolt having an arrow or T-shaped end with inclined rear faces and sharp edges as described, a slotted wedge-shaped washer having serrations upon its inclined face, and a flange at its solid end, and a locking-plate arranged between the washer and fish-plate, substantially as set forth.

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