

(No Model.)

W. P. BROWN.

RAILROAD JOINT AND NUT LOCK.

No. 261,666.

Patented July 25, 1882.

Fig. 1.

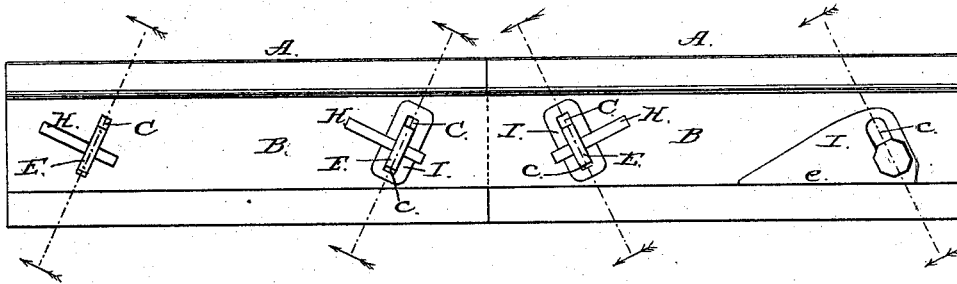


Fig. 2.

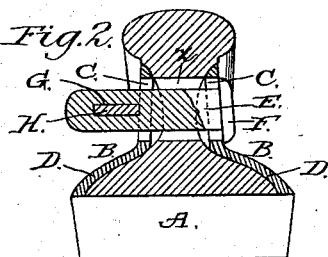


Fig. 3.

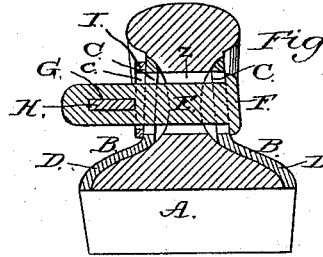


Fig. 4.

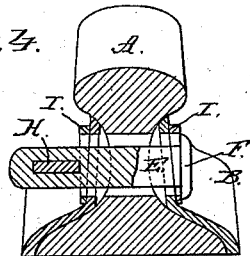


Fig. 5.

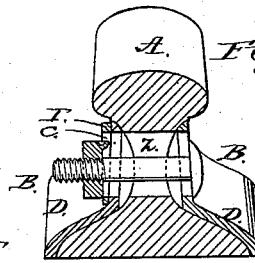


Fig. 7.

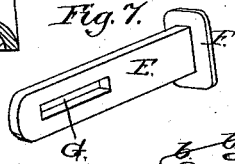


Fig. 8.

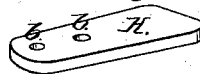


Fig. 9.

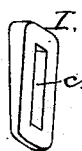
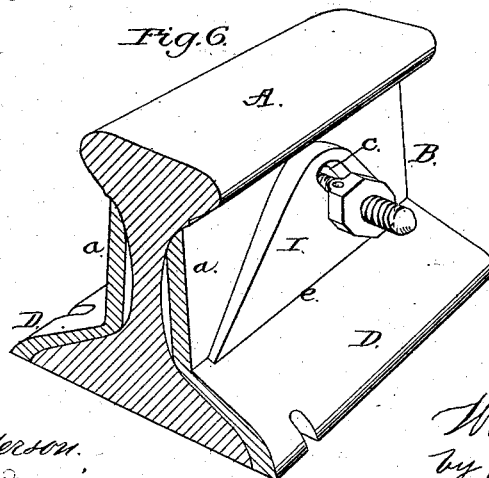


Fig. 10.



Fig. 6.



WITNESSES

Villette Anderson.
Philip Cernasi.

INVENTOR

INVENTOR
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by Anderson & Smith
his ATTORNEYS.

UNITED STATES PATENT OFFICE.

WILLIAM P. BROWN, OF ZANESVILLE, OHIO.

RAILROAD-JOINT AND NUT-LOCK.

SPECIFICATION forming part of Letters Patent No. 261,666, dated July 25, 1882.

Application filed November 5, 1881. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM P. BROWN, a citizen of the United States, of Zanesville, in the county of Muskingum and State of Ohio, have invented a new and valuable Improvement in Nut-Locks; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a side elevation of my invention. Figs. 2, 3, 4, and 5 are cross-sections thereof. Fig. 6 is a perspective section of another form of the same; and Figs. 7, 8, 9, and 10 are detail views of different parts thereof.

This invention has relation to fish-plates for railroad-rails and means for fastening the same; and it consists in the construction and novel arrangement of the oblique slots in the meeting ends of the rails, the obliquely-slotted fish-bars having their outer walls inclined, the flat or flat-neck bolts slotted to receive wedge-form keys, and the slotted wedge-washers, all as hereinafter set forth.

The object of this invention is to provide fish-plates and fastenings for connecting the ends of railroad-rails, which will, by the action of gravitation upon parts of a wedge-form character, take up automatically any slack or looseness caused by wear, and will keep the plates and fastenings firm and in order.

Referring by letter to the accompanying drawings, the letters A A designate the rails, which are slotted obliquely, as shown at *z z*.

B B represent the fish-plates, which are also slotted obliquely, as indicated at C, the inclination of the slots at one end of the plate being usually opposite to that which the slots have at the other end. The fish-plates are usually provided with bases D, which are designed to fit the bases of the rails and to hold the plates in firm position with relation thereto. The outer wall, *a*, of each fish-plate is slightly inclined inward toward its upper edge, so that the fish-plates, taken together as embracing the rail, are designed to have a wedging action with relation to the heads and fastenings of the connecting-bolts. It is designed by this construc-

tion to cause these bolts and fastenings to tighten automatically on the fish-plates, and cause them to hold the rail ends closely at all times.

E represents a flat bolt or a flat-necked bolt, having a head, F, and near its other end a slot, G, which is designed to receive an inclined key, H, which is applied outside the fish-plate after the bolt has been passed through the slot thereof. This key is preferably wedge-shaped, and it may be perforated at *b* to receive a pin or locking-wire. The broad end of this key is uppermost, and it is designed to tighten itself automatically in the slot of the bolt against the fish-plate. When the bolt is somewhat loose in its relation to the fish-plates it may be advisable to use a wedge-shaped washer, I, having a slot, *c*, and designed to be interposed between the fish-plate and the key or nut at the end of the bolt, or between the fish-plate and the head of the bolt; or two washers may be employed, one under the head of the bolt and the other under the key. Sometimes the washer may be made in angular or winged form, having an oblique slot, and a bearing, *e*, to rest against the base of the fish-plate. This washer may be used in connection with a threaded bolt and the nut thereof, which may be circular or angular in its exterior form, and may be locked in position, after being turned home on the bolt, by means of a punch, raising a projection on the base of the nut, extending into the slot of the washer.

In the operation of these devices it is designed to apply the connecting-bolts in such a manner that they will be located in the upper portions of the oblique slots of the fish-plates. Their tendency will then be to drop under the jarring action of trains as the parts become worn or loose, and the heads and keys or end fastenings of the bolts will become tightened by the action of the inclined walls of the fish-plates. So, also, the tendency of the key will be to fall in the slot of the bolt and that of the washers to drop on the bolt, thereby automatically taking up any slack or looseness between the parts.

Having described this invention, what I claim, and desire to secure by Letters Patent, is—

1. In a fish-plate, the inwardly-inclined plates, having the oblique slots, adapted to receive the inclined flat or flat-necked bolts, substantially as specified.

2. The combination, with the obliquely-slotted fish-plates having outer inclined walls and the flat or flat-necked bolts, of the keys adapted to pass through slots in said bolts, substantially
5 as specified.

3. The combination, with the obliquely-slotted fish-plates having outer inclined walls, of wedge-form washers, slotted to receive the bolts and adapted to be interposed between the fish-
10 plate and the bolt-head or end fastening, substantially as specified.

4. The combination, with the rails, of the ob-

liquely-slotted fish-plates, having their outer walls slightly inclined toward each other, the bolts, and the wedge fastening devices designed
15 to take up the slack between the parts automatically, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

WILLIAM P. BROWN.

Witnesses:

A. D. WILLIFER,
DANIEL B. GARY.