

W. J. McDERMOTT.
RAIL FASTENER.
APPLICATION FILED JAN. 31, 1911.

995,075.

Patented June 13, 1911.

FIG. 1

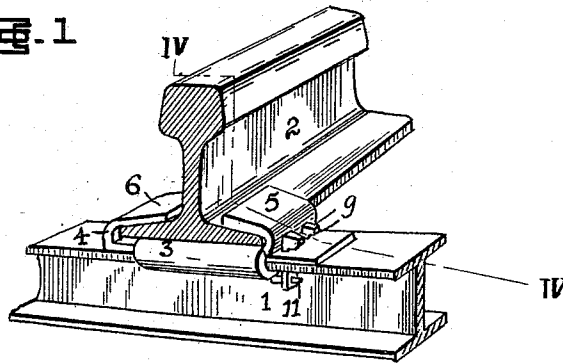


FIG. 2

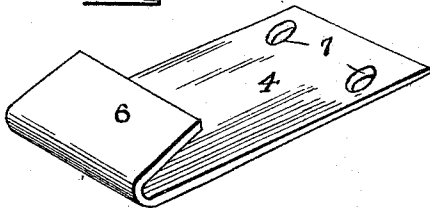


FIG. 3

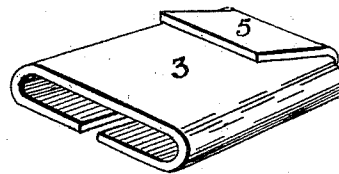


FIG. 4

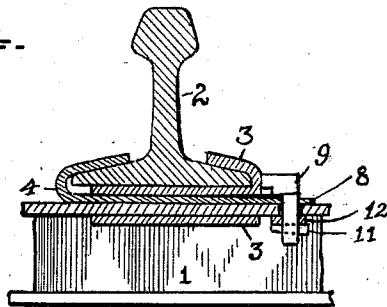


FIG. 5



FIG. 6



WITNESSES:

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WILLIAM J. McDERMOTT, OF WEST HOMESTEAD BOROUGH, PENNSYLVANIA.

RAIL-FASTENER.

995,075.

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To all whom it may concern:

Be it known that I, WILLIAM J. McDERMOTT, citizen of the United States, and residing in the borough of West Homestead, in the county of Allegheny and State of Pennsylvania, have invented or discovered new and useful Improvements in Rail-Fasteners, of which the following is a specification.

My invention consists of a new and improved fastener for the attachment of railway rails to cross-ties or other supports.

Generally speaking, it consists in a sleeve member slidably mounted on the tie and provided with a lip adapted to engage one side of the rail base, and a second member adapted to be introduced between said first member and the tie and also provided with a lip adapted to engage the other side of the rail base. I also show means for securing said second member against loosening, thus also holding the first named member and the rail positively in position. I also show means for permitting variance in the location of the rail, as upon curves or in case of regagement to take up wear, whereby the rail may be clamped into place in its adjusted position with the same security and positiveness with which new rails are secured on tangents. The means shown for locking the second member in place are reliable and preferably are wedged into tight engagement, thus providing an easy method of taking up looseness at any time and also enabling the locking means to be released conveniently for detaching the rail from the tie.

In the accompanying drawings, Figure 1 is a broken perspective of a rail attached to a girder tie by my fastener mechanism; Fig. 2 is a perspective of the wedge member; Fig. 3 is a similar view of the sleeve member; Fig. 4 is a cross section taken along the line IV-IV in Fig. 1 but showing the rail shifted toward the left; Fig. 5 is a perspective of the cotter pin, and Fig. 6 is a similar view of the split key used in connection with the cotter pin.

The following is a detailed description of the accompanying drawings, which, however, are intended merely as illustrative of the principles of my invention and not to limit the scope thereof to the exact structure shown.

1 is a metal cross tie, such as a girder or I-

beam tie, and 2 is the rail to be attached thereto, shown as an ordinary T-rail.

For the purpose of attaching the rail to the tie, I provide the two coacting members 3 and 4. The member 3 is in the form of a sleeve having a bottom slot or opening to permit it to be slid on the top flange of tie 1. One end of the member 3 is provided with an upwardly and rearwardly bent flange or lip 5 forming with the top of the member a wedge shaped seat for one side of the rail base. The member 3 is mounted on the tie with its flanged end outwardly so as to engage the outer side of the rail base. 4 is the wedge member, provided at one end with an upwardly and rearwardly bent flange or lip 6 forming with the top of member 4 a wedge shaped seat for the other side of the rail base. The body of member 4 is preferably tapered in thickness toward its plain end to increase the wedging action. The member 4 is driven in between the top of the tie and the member 3 until its flanged end engages the other side of the rail base from the side engaged by the flanged end of member 3, the lip 6 bearing down upon the base of the rail. The driving in of said member 4 wedges the rail base into the seats formed on both members and also binds both members 3 and 4 firmly on the tie. The plain end of member 4 is provided with one or more holes 7 which are exposed when the member 4 is driven into place and which register with holes 8 in the top of the tie 1. To insure such registration, I prefer to longitudinally slot the holes 7.

9 represents cotter pins or bolts introduced into the holes 7 and 8 to hold the member 4 against movement. In case the members 9 are cotter pins, their lower ends are provided with tapered slots 10 in which are seated the wedged shaped split keys 11 which bear against the lower face of the sleeve member 3. The keys 11 are driven tightly into place and the ends spread to maintain their position. They may be tightened at any time by driving them in farther and spreading the ends to a greater degree.

It is frequently necessary to vary the position of the rail slightly, as for instance to take up wear or to provide for sharp curves. My device is capable of such adjustment which I provide for in the following manner. I provide the pins or bolts 9 with heads of eccentric form or of greater

width in one direction than in the other, as shown in the drawings. On the usual tangent track or in the case of a new rail with full size head, the pins are turned, as shown in Fig. 1, with the shorter diameter of their heads toward the member 3 against which the heads of the pins bear to prevent movement of the sleeve toward the end of the tie which would result in the unintentional widening of the gage. When it is desired to move the rail inwardly, the sleeve member 3 and the wedge member 4 are placed in the proper position and the pins 9 are reversed, as shown in Fig. 4, with the longer sides of the pin heads toward the member 3, bearing against said member and preventing its movement toward the pins to alter the gage. In such case I prefer to provide a washer 12 for the lower end of the pin 9 against which the key 11 may be driven up.

By varying the extent of the heads of the pins I can provide any desired adjustment of the rail position. Usually a change of a quarter of an inch in each rail is all that is required in railway practice, so that a difference of a quarter of an inch in extension in the different diameters of the pin head is sufficient.

The advantages of my novel form of fastener are evident. Among them may be named its extreme simplicity and the small number of parts required. This results in reducing the cost of manufacturing and adds to its durability. I combine the advantage of the wedge principle with the positiveness of cotter pin or bolt connection, and obtain a fastener which not only securely attaches the rail to the tie but also acts as an anti-rail-creeping device.

Although, for the sake of clearness, I have minutely described the accompanying drawings, I do not wish to limit myself thereby, but claim broadly—

1. A rail fastener composed of a member adapted to clasp the tie and engage one side of the rail base, and a second member adapted to be driven between said first member and the top of the tie and engage the other side of the rail base.

2. A rail fastener composed of a sleeve member adapted to be slidably mounted on the top flange of the tie and engage one side of the rail base, and a second member adapted to be driven between said first member and the top of the tie and engage the other side of the rail base.

3. A rail fastener composed of a sleeve member adapted to be slidably mounted on the top flange of the tie and engage one side of the rail base, and a wedge member adapted to be driven between said first member and the top of the tie and engage the other side of the rail base.

4. A rail fastener composed of a sleeve member adapted to be slidably mounted on

the top flange of the tie and engage one side of the rail base, a second member adapted to be driven between said first member and the top of the tie and engage the other side of the rail base, and means for preventing the accidental displacement of said second member.

5. A rail fastener composed of a sleeve member adapted to be slidably mounted on the top flange of the tie and engage one side of the rail base, a second member adapted to be driven between said first member and the top of the tie and engage the other side of the rail base, and a third member adapted to lock said second member against accidental displacement.

6. A rail fastener composed of a sleeve member adapted to be slidably mounted on the top flange of the tie and engage one side of the rail base, a second member adapted to be driven between said first member and the top of the tie and engage the other side of the rail base, and a third member engaging said second member and the tie to lock said second member against accidental displacement.

7. A rail fastener composed of a sleeve member adapted to be slidably mounted on the top flange of the tie and engage one side of the rail base, a second member adapted to be driven between said first member and the top of the tie and engage the other side of the rail base, and a third member seated in holes in said second member and the tie and adapted to lock said second member against accidental displacement.

8. A rail fastener composed of a sleeve member adapted to be slidably mounted on the top flange of the tie and engage one side of the rail base, a second member adapted to be driven between said first member and the top of the tie and engage the other side of the rail base, and a third member, having an eccentric head, seated in holes in said second member and the tie and adapted to lock said second member against accidental displacement.

9. A rail fastener composed of a sleeve member adapted to be slidably mounted on the top flange of the tie and engage one side of the rail base, a second member adapted to be driven between said first member and the top of the tie and engage the other side of the rail base, and a third member having an eccentric head adapted to be seated in registering holes in said second member and the tie and adapted to bear against said first member.

10. A rail fastener composed of a sleeve member adapted to be slidably mounted on the top flange of the tie and engage one side of the rail base, a second member adapted to be driven between said first member and the top of the tie and engage the other side of the rail base, and a third member adapted

ed to be seated in registering holes in said second member and the tie and adapted to bear against said first member.

11. A rail fastener composed of a sleeve member adapted to be slidably mounted on the top flange of the tie and engage one side of the rail base, a second member adapted to be driven between said first member and the top of the tie and engage the other side of the rail base, a third member adapted to be seated in registering holes in said second member and the tie and to bear against the said first member, and a wedging means for keeping said third member in position.

12. A rail fastener composed of a sleeve member adapted to be slidably mounted on the top flange of the tie and engage one side of the rail base, a second member adapted to be driven between said first member and the top of the tie and engage the other side of the rail base, a third member adapted to be seated in registering holes in said second member and the tie and provided with an eccentric head which bears against said first member, and wedging means for keeping said third member in position.

13. A rail fastener composed of a sleeve

member adapted to be slidably mounted on the top flange of the tie and engage one side of the rail base, a second member adapted to be driven between said first member and the top of the tie and engage the other side of the rail base and having a slotted hole therein, and a third member adapted to engage said hole and a hole in the tie to lock said second member against accidental displacement.

14. A rail fastener composed of a sleeve member adapted to be slidably mounted on the top flange of the tie and engage one side of the rail base, a second member adapted to be driven between said first member and the top of the tie and engage the other side of the rail base and having a slotted hole therein, a third member adapted to engage said hole and a hole in the tie to lock said second member against accidental displacement, and wedging means for keeping said third member in position.

Signed at Pittsburg, Penna. this 28th day of January 1911.

WILLIAM J. McDERMOTT.

Witnesses:

E. A. LAWRENCE,
THOS. E. FINLEY.