

S. VANSTONE.

Fastenings for Railroad Rail-Joints.

No. 136,683.

Patented March 11, 1873.

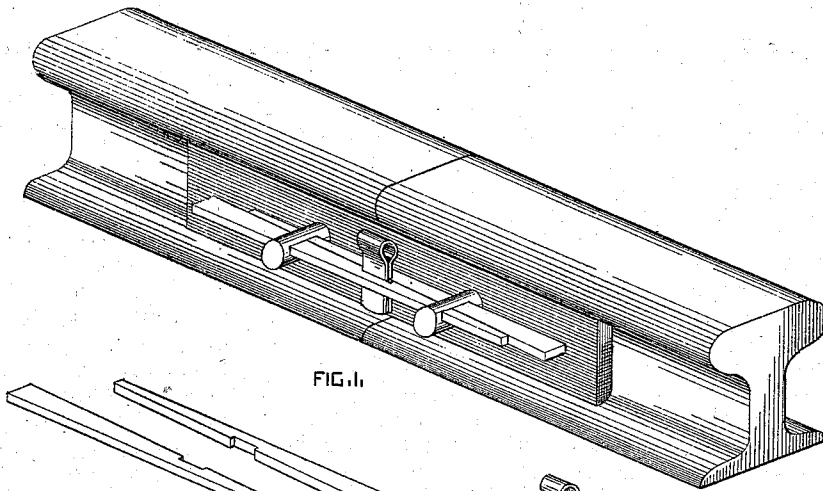


FIG. 1.

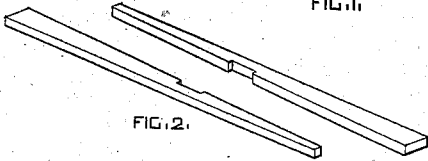


FIG. 2.



FIG. 3.

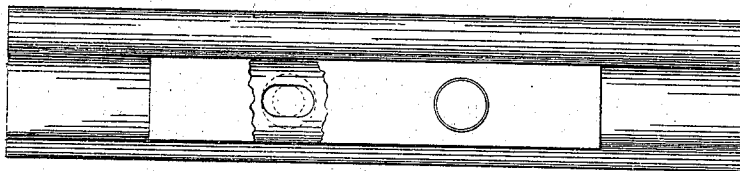


FIG. 4.

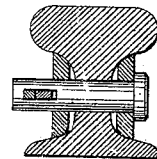


FIG. 5.

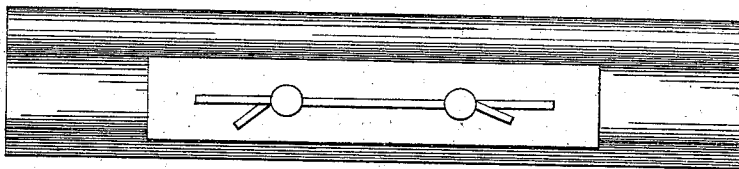


FIG. 6.

WITNESSES,

INVENTOR,

*Philip Robinson Jr
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UNITED STATES PATENT OFFICE.

SAMUEL VANSTONE, OF NORTH PROVIDENCE, ASSIGNOR TO HENRY LIP. PITT. CHARLES H. MERRIMAN, AND JAMES T. RHODES, TRUSTEES, OF PROVIDENCE, RHODE ISLAND.

IMPROVEMENT IN FASTENINGS FOR RAILROAD-RAIL JOINTS.

Specification forming part of Letters Patent No. 136,683, dated March 11, 1873.

To all whom it may concern:

Be it known that I, SAMUEL VANSTONE, of North Providence, in the county of Providence and State of Rhode Island, have invented a new and useful Improvement in the Fastening for joints of Railroad Rails, of which the following, taken in connection with the accompanying drawing, is a specification:

Figure 1 shows the joints of rails with the improved fastening applied. Fig. 2 shows the wedges which are used in connection with the bolts. Fig. 3 shows a key used to hold the wedges in place. Fig. 4 shows the slot ordinarily punched in a rail, with a plan of the bolt as applied to the same. Fig. 5 shows a vertical transverse section of rail with improved fastening. Fig. 6 shows another mode of holding the wedges in place.

The object of my invention is to secure a device by means of which the joints of rails can be firmly fastened and easily tightened when worn by use, which shall be adapted to the fish-plates ordinarily used for this purpose, and to avoid the trouble and expense caused by the use of nuts on the bolts which hold the same.

To accomplish this, in connection with the common fish-plates I use slotted bolts with wedges, instead of bolts with a thread and nut. The bolts being of the proper length to bring the inner face of the slot a trifle less than flush with the outer plate, the wedges, Fig. 2, are applied as shown in Fig. 1. These wedges are then driven up as far as possible, and secured in their place by a key, Fig. 3, the ends of which are easily bent by a blow of the hammer, thus making the whole secure and incapable of becoming loose, except by wear or bending back against the ends of the key for the purpose of removing it. The two wedges are made with straight edges tapering gradually in the same plane, so that when driven up the two outer edges will form parallel, or nearly parallel, lines. The effect of

this form of the wedges is to produce parallel and equal bearings in the slotted bolts, and a uniform pressure along the whole length of the plate.

When the bolts are held by nuts the thread easily wears off, and the bolts, turning in the rails, often turn off the nuts; but when fastened as I propose it is impossible for the bolts to turn, nor can they become loose until the slots have become considerably worn. The wedges are of such length that, when the slots have become thus worn, they can be easily driven up still further and made as tight as at first, with much less labor and expense than is now required to tighten nuts on bolts.

The key shown in Fig. 3 is merely one form taken for convenience. Many other forms of keys or colters may be used for the same purpose, the object being to hold the wedges from slipping back. A common iron pin through holes in the wedges would answer; or, the wedges being of malleable iron, the ends can be bent down as shown in Fig. 6. Instead of the long wedges running from bolt to bolt, the same device may be applied with shorter wedges to each bolt separately, or with one long and one short wedge, fastened in one of the ways above referred to.

What I claim as my invention, and desire to secure by Letters Patent, is—

The fastening of joints of rails or other similar joints by means of slotted bolts with wedges extending through two or more bolts, the outer edges of which wedges shall form, when driven up, parallel, or nearly parallel, lines, producing a uniform bearing on the fish-plate, or either of the equivalent devices above referred to, the whole fastened substantially as described.

SAMUEL VANSTONE.

Witnesses:

PHILIP B. STINESS, Jr.,
SARAH A. VANSTONE.