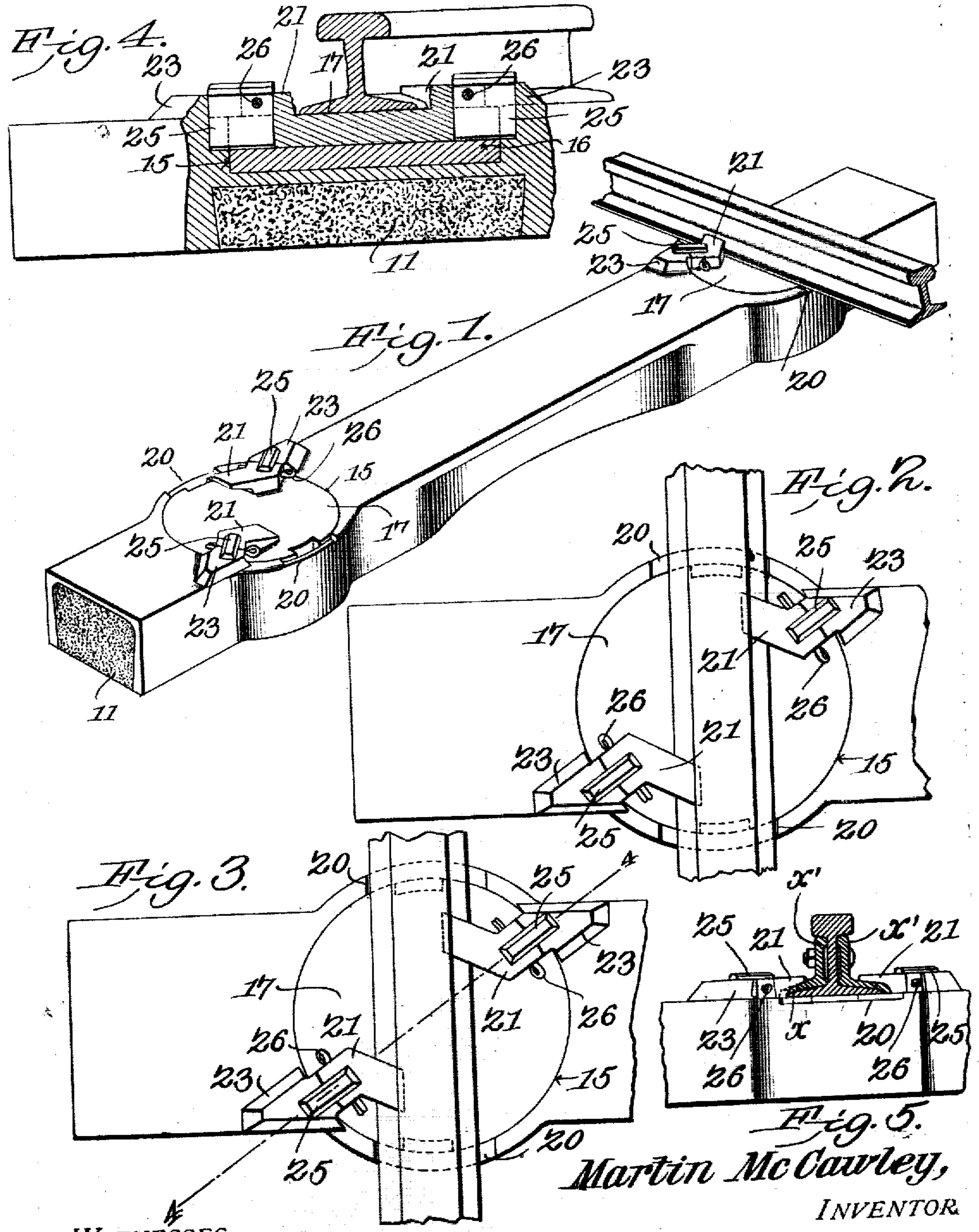


No. 828,499

PATENTED AUG. 14, 1906.

M. McCawley.
RAIL TIE.

APPLICATION FILED MAY 11, 1906



WITNESSES:
E. H. [Signature]
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UNITED STATES PATENT OFFICE.

MARTIN McCRAWLEY, OF MILLPORT, NEW YORK.

RAIL-TIE.

No. 828,499.

Specification of Letters Patent.

Patented Aug. 14, 1906.

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To all whom it may concern:

Be it known that I, MARTIN McCRAWLEY, a citizen of the United States, residing at Millport, in the county of Chemung and State of New York, have invented a new and useful Rail-Tie, of which the following is a specification.

This invention relates to railway-rail ties, and has for its principal object to construct a cheap and durable tie of steel or iron and concrete or similar material, which may be employed to advantage as a substitute for the wooden ties in ordinary use.

A further object of the invention is to construct a tie in which the rails are provided with cushioned supports.

A still further object of the invention is to provide a tie having a rail-fastening device of simple construction and by which the rails may be firmly secured in place.

A still further object of the invention is to provide a rail-fastening of such construction as to permit the rapid replacing of rails without interfering with the running of trains.

A still further object of the invention is to provide a railway-tie with a fastening device of such construction as to permit adjustment of the rails for the purpose of changing the gage when necessary without any change or alteration in the construction of the fastener.

A still further object of the invention is to provide a railway-tie and rail-fastening which may be employed to advantage at any point in the length of the rail as well as at rail-joints.

With these and other objects in view, as will more fully hereinafter appear, the invention consists in certain novel features of construction and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that various changes in the form, proportions, size, and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings, Figure 1 is a perspective view of a railway-tie constructed in accordance with the invention, showing one rail in position. Fig. 2 is a plan view of one end of the tie, showing the position of the rail-fastening device where the rails are to be spaced at standard gage. Fig. 3 is a similar view showing another adjustment of the locking device where the width is greater than

standard gage. Fig. 4 is a transverse sectional view through the tie on the line 4 4 of Fig. 3. Fig. 5 is a detail view showing the arrangement of the fastening device when in engagement with a fish-plate at the juncture of two rails.

Similar numerals of reference are employed to indicate corresponding parts throughout the several figures of the drawings.

The tie forming the subject of the present invention is formed of stamped or pressed steel or similar metal and is in the form of a channel-bar in cross-section, its opposite side walls being preferably slightly tapered toward the open bottom. In some cases the ties may be formed of rolled or of cast metal. The tie is provided with a filling 11, formed of concrete or similar initially plastic material held in place by the tapered walls of the tie and which when once set adds to the strength and rigidity of the tie.

Near each end of the tie is a circular recess 15, within which is placed a disk 16, formed of fiber or similar material possessing a slight degree of elasticity and serving to form a cushion for the rail. On this cushion is placed a disk 17, which may be formed of any suitable metal, and the rail rests on top of the disk, its weight being imposed on the cushion, and in order not to interfere with this the opposite sides of the tie are provided with recesses 20 at points below the rail, so that the weight of the latter will be supported by the disk and none of it will be imposed directly upon the tie.

The rail-fastening disk is provided with a pair of blocks 21, that are arranged to engage with the foot of the rail, the disks being turned for this purpose until the blocks bind firmly against opposite sides of the rail, and when the blocks are adjusted to this position they are in alinement with lugs 23, that are preferably formed integral with the tie proper and project slightly over the edge of the circular recess. The adjacent or contacting faces of each block and lug are provided with recesses for the reception of a locking-key 25, which is dropped into place and which may be secured by a latchpin 26, extending through alining openings formed in the block 21 and the locking device.

It will be observed on reference to Figs. 2 and 3 that the rail-engaging blocks 21 are slightly eccentric with respect to the disk—that is to say, they are at different distances, respectively, from a line drawn diametrically

across the disk and parallel with the length of the rail.

Where the rails are employed on a straight track, each rail is placed in the position shown in Fig. 2—that is to say, at a point nearest the center of the length of the tie—and in this position the rails will be at standard gage—that is to say, four feet eight and one-half inches apart. On curves, however, the gage is slightly increased, and for this purpose the disk is turned to the extent of half a revolution, so that when the rail is placed in position and clamped, as shown in Fig. 3, it will be somewhat nearer the end of the tie. The extent of this adjustment may be best observed by the position of the rail with respect to the recesses 20 of the tie in Figs. 2 and 3.

This form of tie and fastening is found of exceptional advantage where rails are to be renewed without interfering with the running trains. For this purpose any number of rail-sections may be bolted together by the usual fish-plates and placed in position alongside the railway-rail which is to be removed and the fastenings of the latter rail being moved to release position, except some few fastenings at intervals. After the passage of a train the remaining fastenings are turned to release position and the rail is removed, a new rail being dropped into place and a number of fastenings turned in order to hold the rail until the passage of the next train, after which the remaining fasteners may be turned for the purpose of firmly securing the rail in place.

Where the tie is employed at the rail-joint, the projecting ends of the securing-blocks 21 are arranged to fit in the spike-notches x of the fish-plates x' , as shown in Fig. 5.

I claim—

1. A metallic tie in the form of a channel-bar in cross-section, the inner faces of the side webs of the bar being tapered, said tie having a filling of concrete or similar initially plastic material.

2. A railway-tie having a recessed upper face, a cushioning member in the recess, and a circumferentially-adjustable rail-locking member resting on said cushioning member.

3. A railway-tie, a recessed upper face, a circumferentially-adjustable rail-engaging member within said recess; and means for

locking said member in rail-engaging position.

4. A railway-tie having a recessed upper face, a circumferentially-adjustable rail-engaging member arranged within the recess, and detachable locking-pins for holding said member in rail-engaging position.

5. A railway-tie having a recessed upper face, a disk disposed within the recess, rail-engaging blocks on said disk, lugs carried by the tie, the blocks and lugs having recesses, and locking-pins arranged to fit within said recesses.

6. The combination with a railway-tie having a recessed upper face, of a rail-locking member arranged within the recess, and the opposite edges of the tie being recessed at points below the rail to prevent engagement of the latter with the tie.

7. A circumferentially-adjustable rail-locking member having spaced rail-engaging means arranged respectively at different distances from the center of said member.

8. A circumferentially-adjustable rail-supporting member having spaced eccentrically-disposed means for engaging the foot of the rail.

9. A railway-tie and a rail-engaging member supported thereby, said member being revolvably adjustable to alter the distance between the end of the tie and the rail.

10. The combination with a railway-tie, of a revolvably-adjustable rail-engaging member having spaced eccentrically-disposed blocks for gripping the foot of the rail.

11. The combination with a metallic tie having a recessed upper face, of a pair of recessed lugs carried by the tie and projecting slightly beyond the edge of the tie-recess, a metallic disk revolvably adjustable within the recess, and provided with a pair of spaced rail-engaging blocks having recesses movable into alinement with the recesses of the lugs, securing-pins adapted to the alining recesses, and means for locking said pins in position.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

MARTIN McCRAWLEY.

Witnesses:

E. HUME TALBERT.

JNO. E. PARKER.