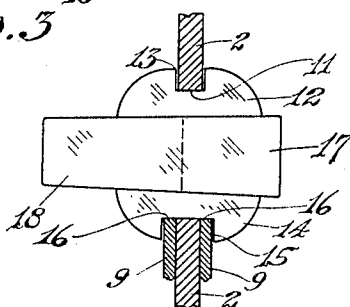
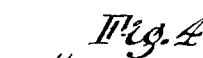
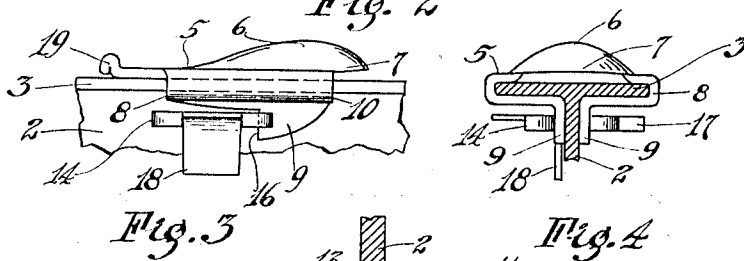
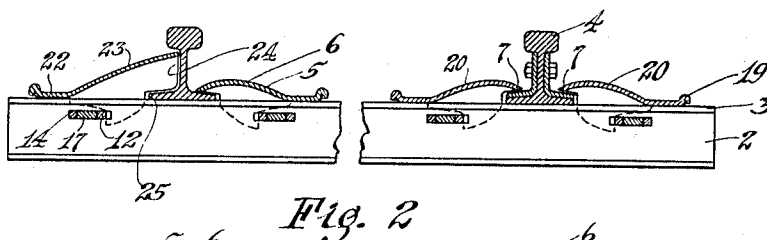
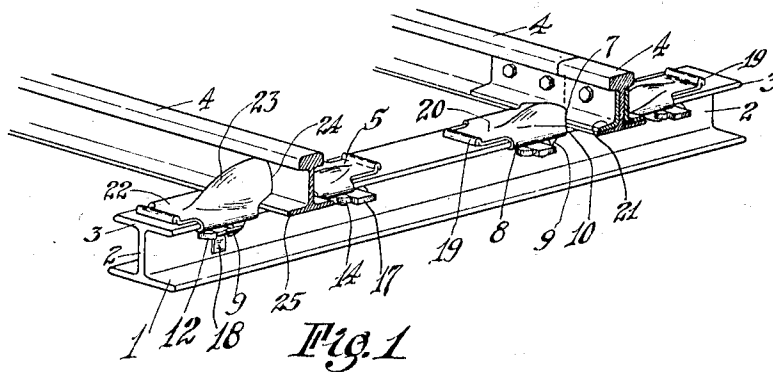


A. S. LAWSON.
METALLIC TIE AND RAIL CLAMP.
APPLICATION FILED JUNE 19, 1912.

1,041,106.

Patented Oct. 15, 1912.



Witnesses

Edmund Evans
Wm. H. H. H.

Inventor

Algeron S. Lawson

By

Wm. H. H. H.

Attorney

UNITED STATES PATENT OFFICE.

ALGERNON SIDNEY LAWSON, OF FOSSIL, ALABAMA.

METALLIC TIE AND RAIL-CLAMP.

1,041,106.

Specification of Letters Patent.

Patented Oct. 15, 1912.

Application filed June 19, 1912. Serial No. 704,639.

To all whom it may concern:

Be it known that I, ALGERNON SIDNEY LAWSON, a citizen of the United States of America, residing at Fossil, in the county of Jefferson and State of Alabama, have invented certain new and useful Improvements in Metallic Ties and Rail-Clamps, of which the following is a specification.

My invention relates to a novel and effective means for fastening rails to metallic ties, and especially ties which are formed by I-beams with a widened base to increase their bearing surface on the ground.

My object is to provide clamps which will slip over the head of the I-beam tie and will be fastened in position to clamp the rail to the tie by means of devices which are inserted through the web of the tie and are susceptible of adjustment to accommodate different sizes of rails.

One object of my invention is to form the clamps preferably of stamped sheet steel so that they will be strong and light and inexpensive.

A further object of my invention is to provide novel bearing blocks which are inserted in the openings in the web of the I-beam tie to furnish an extended bearing surface for the tapered wedge which locks the clamp in engagement with the rail to hold the latter in position. In adapting my invention to lock rails of different sizes, the adjustment may be obtained by means of the wedge itself, or by providing bearing blocks of different thicknesses which are inserted in the web opening and co-act with the wedge to lock the clamps in position.

A further object of my invention is to utilize one of the bearing plates to overlap the bottom wings of the clamp so as to grip them against the web of the I-beam tie and prevent any tendency of the wings to spread under stress.

Another object of my invention is to provide clamps designed to brace the outer rails of curves, and to adapt the clamps to engage either the rail directly or, when opposite joints, the fish-plates.

In its preferred embodiment, my invention is illustrated in the accompanying drawings, in which:—

Figure 1 is a perspective view showing my invention in its several forms in operative position when clamping and bracing rails to the metal tie. Fig. 2 is a front elevation of the tie showing the rail clamps

and their locking means in vertical sectional elevation. Fig. 3 is a side elevation, and Fig. 4 a vertical sectional elevation of the head of the cross tie with the rail clamp in position. Fig. 5 is a detail plan view showing the arrangement of the adjustable fastening means for the clamp.

Similar reference numerals refer to similar parts throughout the drawings.

In the preferred embodiment of my invention, which I have illustrated in the drawings, I use a metallic tie formed by an I-beam having a widened base 1, a web 2 and a T-head 3. The rails 4 are adapted to rest upon the head 3 and to be clamped in position thereon by clamps which slip over the head 3 and are suitably locked in position thereon to clamp the rail to the tie. The clamp for most general use is presented in the form designated 5, illustrated in Figs. 3 and 4. It is preferably made of steel plate, though a casting may be used if preferred. The clamp is in the form of a cuff having its middle portion raised to form an arch 6 which terminates in a lip 7 adapted to overhang and engage the base of the rail. The sides 8 of the clamp are bent to fit around the head 3 of the tie and they terminate in bottom wings 9 which lie against and parallel with the web 2 of the tie. The sides 8 have square shoulders 10 at their forward ends which engage the outer edges of the base of the rail, while the lip 7 rests on top of the base, thus securing a firm grip on the rail. The web of the tie has transverse slots 11 arranged in predetermined spaced relationship with and on each side of the center line of each rail. A bearing block 12, having a notch 13 in its rear edge, is inserted in each slot with its notch receiving the end wall of the slot farthest from the adjacent rail, as seen in Fig. 5. This bearing block has a flattened front face which extends beyond the side walls of the web. A bearing block 14, similar to 12 with the exception that its notch 15 is made wide enough to receive in it not only the other end wall of the slot in web 2, but also the wings 9 of the clamp. These wings terminate in vertical shoulders 16 which face away from the lip 7 and bear against the inner wall of the notch 15 in the bearing block 14. A tapered wedge key 17 is adapted to be inserted between the bearing blocks 12 and 14 and driven through the slot so as to force the bearing

blocks apart and, by means of the engagement of the block 14 with the shoulders 16 of the clamp wings 9, to force the clamps toward the rail until they are in interlocked relationship therewith, when the split ends 18 of the wedge 17 are bent to lock the wedge in position. The rear end of the clamps are bent up to form a transverse shoulder 19 which serves as a means to enable the clamps to be struck by a tool in slipping it on or off the tie.

The standard form of clamp is shown in Fig. 3, and this form will be used where it is not desired to brace the rails, as in the case of the outer rails of curves and also where the clamps do not come opposite to joints or fish-plates. In Fig. 1 I show a clamp 20 which differs from the clamp 5 only in that its lip 7 and shoulder 10 are designed to accommodate the interposition of a fish-plate 21 between the base of the rail and the clamp. In both of the clamp constructions described, it will be noted that the lip 7 engages the base only of the rail and therefore serves merely to clamp the rail rigidly to the cross tie. In connection with the outer rail of curves, I use the clamp 22 which is similar to the other clamps, with the exception that its central raised portion 23 rises almost to the top of the web of the rail and is provided with a shoulder 24 which bears against the web of the rail and extends down to the base of the rail where it is cut away to extend along over the base of the rail to a shoulder 25 which engages the edge of the rail base. The several forms of clamps all have wings 9 which are engaged by the clamping means described and held thereby in interlocked position with the rails.

While the location of the slots 11 in the web of the tie are fixed with reference to the center lines of the rails of a standard gage track, nevertheless my clamping means will readily accommodate itself to rails of different sizes, this being done either by the provision of bearing blocks 12 or 14, either or both, having different thicknesses considered lengthwise of the tie or by providing a wedge key having a length and a taper which will compensate half the difference of the increase or decrease of width of the rail base from a given standard of rail with reference to the size of which the slots are located.

The bearing blocks, with their extended surfaces for engagement with the interposed wedge, will prevent the latter cocking in the slot or becoming cut or worn, as will be the case if it had its bearing directly against the web of the tie. By inserting the slot and locking means through the web of the tie I am enabled to use a standard I-beam type of metallic tie without cutting or slotting its T-head. The forward bearing clamp plate 14 in gripping the wings 9 of the

clamps against the web of the tie, effectively locks the clamp against removal and at the same time prevents any tendency of the wings to spread under stress.

Without limiting myself to the details of construction which have been thus fully described as representing the preferred embodiment of my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. In combination, a metallic tie having a T-shaped head, a rail fastener shaped to slip on said head and having a rail engaging portion, there being a slot formed in the web of the tie, a bearing block which is inserted in one end of said slot and extends beyond the sides of the web and into engagement with said fastener, laterally projecting shoulders connected to the tie web and disposed at the other end of the slot, and a wedge key adapted to engage between said shoulders on one side and said block on the other to force the latter and with it said fastener into position against the rail, substantially as described.

2. In combination, a metallic tie having a T-head, a bent metal rail fastener adapted to fit over said head and having portions which lie alongside the web of the tie in which is a slot, means to clamp said portions to the web, a wedge adapted to be inserted through said slot to force the clamp into operative position, and an extended bearing for said key formed by shoulders which project on each side of said web and are connected thereto.

3. In combination, a metallic tie having a T-head which supports the rails and is provided with slots in its web on each side of each rail, rail fasteners which receive between them the rails and are shaped to slip over and along the tie head and having depending shoulders, and separate fastening means for each rail fastener comprising a notched bearing block which is inserted through a slot in the tie web and engages and overlaps the depending shoulders on the fastener, a wedge also inserted in said slot, and bearing projections on each side of the tie web which are engaged by said wedge which is adapted to be interposed between them and said clamp to force the block and fastener toward the rail.

4. A metallic rail fastener formed of bent sheet metal and comprising a rail flange engaging lip, side wings bent to form between them and the body of the fastener a T-shaped opening, and a rear extension which is transversely crimped to form an upwardly projecting shoulder.

5. In combination, a metallic tie having a T-head which supports the rails and is provided with slots in its web, clamps shaped to fit over the tie head and having depending shoulders, and fastening means for each

clamp comprising a notched bearing block which is inserted through a slot in the tie web and engages and overlaps the depending shoulders on a clamp, a second notched bearing block inserted in the slot and adapted to engage the web, and a wedge adapted to be driven between said blocks, as and for the purposes described. 15

6. In combination, a metallic tie having a T-head which supports the rails and is provided with slots in its web, clamps shaped to fit over the tie head and having depending shoulders, and fastening means for each clamp comprising a notched bearing block 20

which is inserted through a slot in the tie web and engages and overlaps the depending shoulders on a clamp, a second notched bearing block inserted in the slot and adapted to engage the web, a wedge adapted to be driven between said blocks, and means to lock the wedge in position.

In testimony whereof I affix my signature in presence of two witnesses.

ALGERNON SIDNEY LAWSON.

Witnesses:

NOMIE WELSH,

R. D. JOHNSTON, Jr.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."