

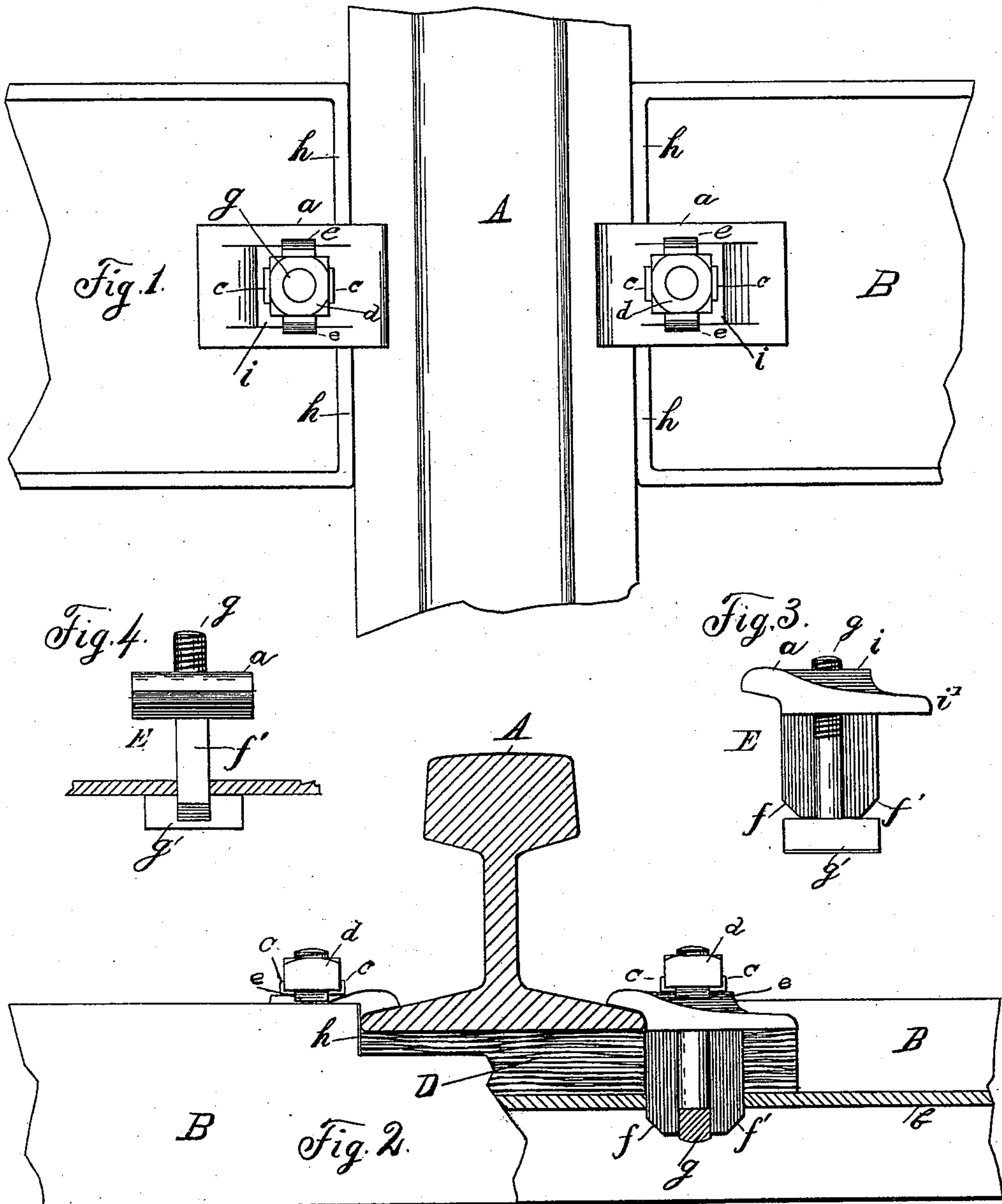
(No Model.)

2 Sheets—Sheet 1.

I. S. MCGIEHAN.
CLAMP FOR RAILROAD RAILS.

No. 414,779.

Patented Nov. 12, 1889.



WITNESSES:

Nathan Barney
W. H. Spencer,

INVENTOR
Isaac S. McGiehan.
BY
Isaac L. Foster.
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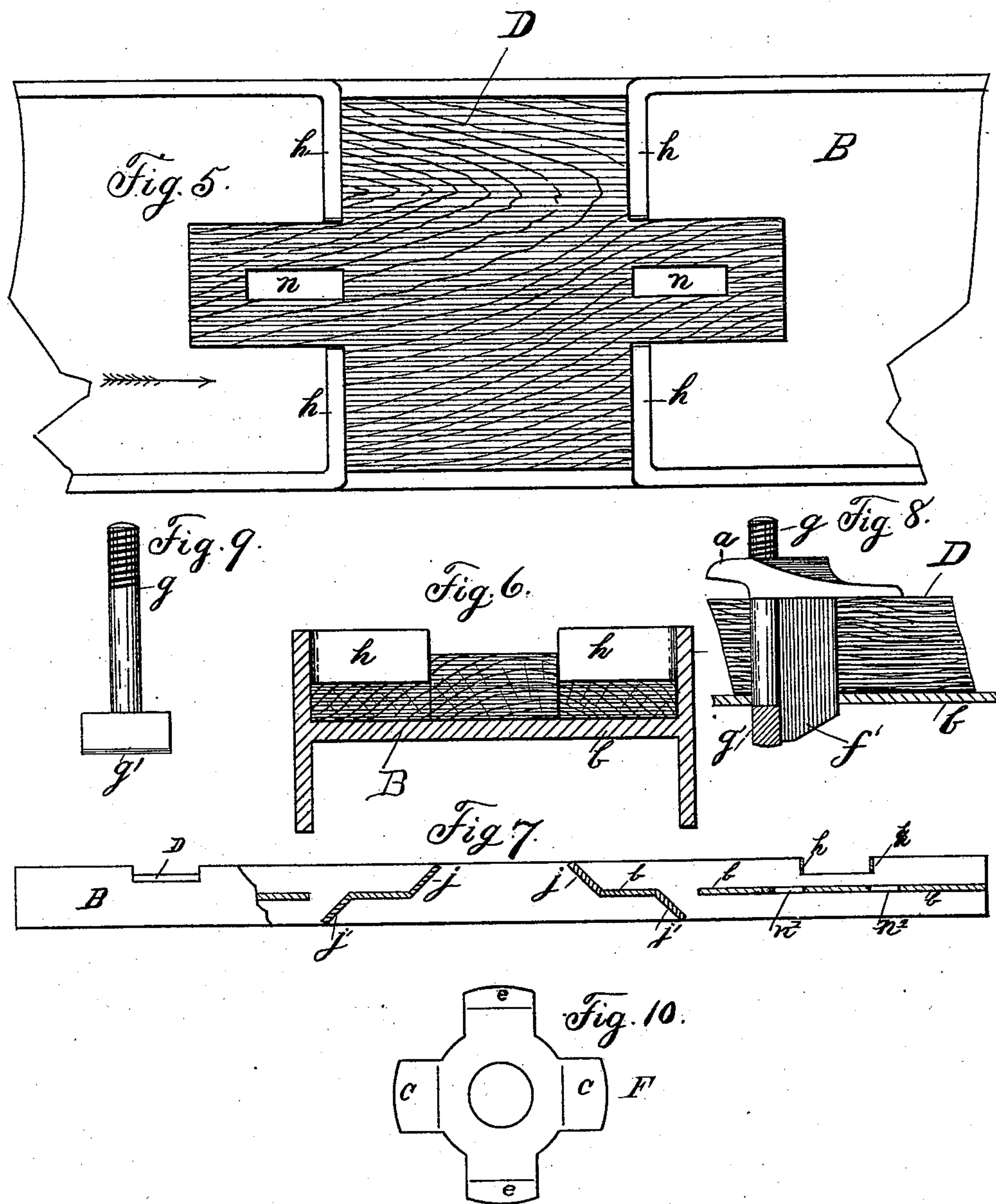
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ATTORNEY

UNITED STATES PATENT OFFICE.

ISAAC S. MCGIEHAN, OF BERGEN POINT, NEW JERSEY, ASSIGNOR TO THE
STANDARD METAL TIE AND CONSTRUCTION COMPANY, OF NEW JERSEY.

CLAMP FOR RAILROAD-RAILS.

SPECIFICATION forming part of Letters Patent No. 414,779, dated November 12, 1889.

Application filed January 7, 1889. Serial No. 295,613. (No model.)

To all whom it may concern:

Be it known that I, ISAAC S. MCGIEHAN, of Bergen Point, county of Hudson, and State of New Jersey, have invented certain new and useful Improvements in Clamps for Railroad-Rails, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The object of this invention is to provide an improved combined clamp and bolt to be used with metal railway-ties for holding the rails in position, the construction and combination being such that when the device is in place the bolt is automatically held so that it will not turn when the nut is being turned on or off.

In the drawings the combined clamp and bolt are shown as applied to a tie of H-beam cross-section; but it may with good effect be used with ties of other forms.

Reference is to be had to the accompanying drawings, forming part of the specification, wherein the letters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan showing a rail held by my improved device in position on a metal tie. Fig. 2 is a side elevation of the same, partly in section and with parts broken away to exhibit other parts. Fig. 3 is a side elevation of combined clamp and bolt arranged to be put in place. Fig. 4 is a front elevation of the same in place. Fig. 5 is a plan showing a rail-supporting block in place in a tie. Fig. 6 is a cross-section of the same, looking in the direction of the arrow, Fig. 5. Fig. 7 is a reduced longitudinal elevation, partly in section, of a tie to which this combined clamp and bolt may be applied. Fig. 8 is a side elevation showing a modified form of the combined clamp and bolt in place in a tie. Fig. 9 is an elevation of the bolt of same. Fig. 10 is a plan of a nut-lock used, as shown in Figs. 1 and 2.

In the drawings, A represents a rail, and B an H-tie that, at the points where the rails are to be laid, is cut vertically and longitudinally on both sides, so that lugs are formed which are bent inward at right angles opposite and parallel to each other, as shown at *h*, Figs. 1, 2, 5, and 6; hence at each point where a rail is to rest there is a pair of these lugs *h*

extending at right angles to the sides about one-third of the distance across the tie, so that between the ends of the two opposite pairs of lugs there is a space of about one-third the width of the tie, and the space between the lugs of each pair is designed to be equal to the width of the rail-base, so that the rails fitting closely between the lugs are secured against spreading.

In order to better support the rail to prevent metallic contact between it and the tie, and to afford the best conditions for the application of my improved combined clamp and bolt, a block D, of wood, or other suitable material, is set between the lugs on the web *b* of the tie, the said block having opposite ears provided with vertical mortises *n* for the clamps, which extend lengthwise of the tie between the ends of the opposing pairs of lugs, as best shown in Figs. 5 and 6. These blocks D are high enough to extend somewhat above the longitudinal cuts, so that the rail rests on them instead of directly on the tie itself, as best shown in Fig. 2.

The clamp E is somewhat of a T shape, its horizontal head having a lip *a* beveled on its interior face to correspond with the bevel of a rail-base, and a swell or boss *i* to give it sufficient strength, and also having a rear extension *i'* to bear on the rear extensions of block D.

The perpendicular shank of the clamp is preferably forked, in which case the bolt *g* will be passed up between the forks, as shown in Figs. 2 and 3, at *f' f'*, or may be single, as shown in Fig. 8. The bolt *g* has a T-head *g'*; or an L-head to the bolt will be as effective in many cases, narrow enough to enter between the forks of the clamp-shank, as shown in Fig. 2, and of a length not exceeding the measure across the said shank-forks, as shown in Fig. 3.

In operation the clamp and bolt are put together, as indicated in Fig. 3, with enough of the screw end of the bolt extending above the head of the clamp for the engagement of a nut *d*, while the bolt-head is drawn up against the points of the shank-forks. Then the clamp-forks and bolts are inserted into the block-mortises *n* and through corresponding openings *n'*, Fig. 7, in the tie-web until the points of the forks are below said web

and the clamp-head rests on the base of rail A and on block D. Then the bolt is turned and drawn up so that its head is brought up between the clamp-forks and across the slot 5 in the tie-web, as shown in Figs. 2 and 4, and when in this position it is evident that the said bolt cannot be turned. Then preferably a nut-lock, as F, Figs. 1, 2, and 10, is put over the screw end of the bolt, and the nut 10 being properly turned on, the fingers *c* of the said block are turned up against the nut and the fingers *e* turned down against the boss of the clamp-head, whereby the said nut *d* is held from turning loose.

15 In applying the bolt and the modified form of clamp shown in Fig. 8, wherein the clamp-shank is single, not forked, the bolt is entered first down through a mortise *n* and turned so that its head is brought across the said open- 20 ing *n* and the corresponding opening *n'* in the tie-web, and then the clamp is introduced, with its head over the bolt, so that it shall force the bolt bodily into the end of the mortise *n* toward the center of the block, as 25 shown, and at the same time prevent it from turning.

In Fig. 7 is shown a longitudinal section of an H-tie, in which the web is cut and bent both up and down at several points to form 30 resisting-plates *jj'*, designed to serve the same purpose as those shown and described in the

United States Patent Serial No. 286,357, of July 17, 1888.

Having thus described my invention, I claim as new and desire to secure by Letters Patent— 35

1. A combined rail clamp and bolt constructed substantially as shown and described, wherein the clamp portion has a horizontal head and a forked perpendicular shank, and the bolt has a T-head narrow enough across to 40 enter between the shank-forks and too long to be turned therein, and a shank longer than the clamp, as set forth.

2. In a combined rail clamp and bolt, substantially as herein shown and described, the 45 clamp made in one piece, having a forked shank, and provided with a forward-projecting lip beveled on its inferior face to correspond with the bevel of a rail-base, and a rear head extension, as and for the purposes 50 set forth.

3. The combination, with tie B and block D, of clamp E, bolt *g*, and nut *d*, constructed and arranged substantially as herein shown and described. 55

In testimony that I claim the foregoing I have hereunto set my hand, in the presence of two witnesses, this 2d day of January, 1889.

ISAAC S. MCGIEHAN.

Witnesses:

JACOB J. STORER,

W. H. SPENCER.