

A. J. COOVER.
RAILWAY TRACK CONSTRUCTION.
APPLICATION FILED SEPT. 23, 1907.

937,770.

Patented Oct. 26, 1909.

2 SHEETS—SHEET 1.

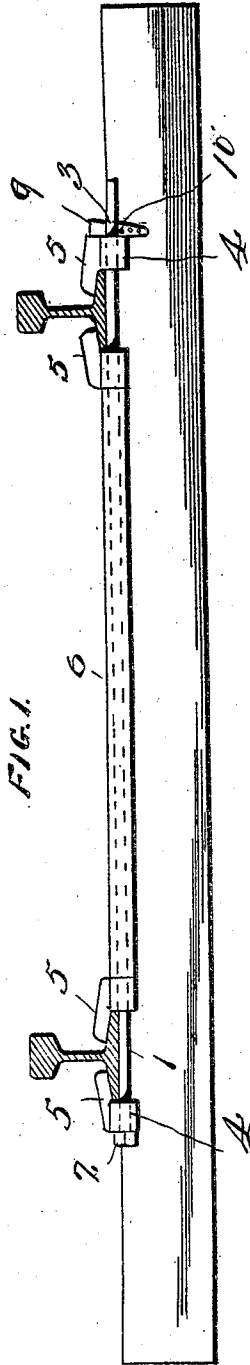


FIG. 1.

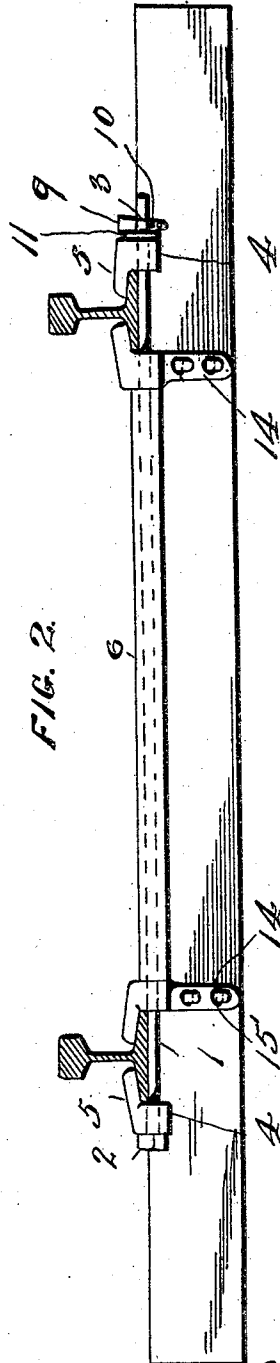


FIG. 2.

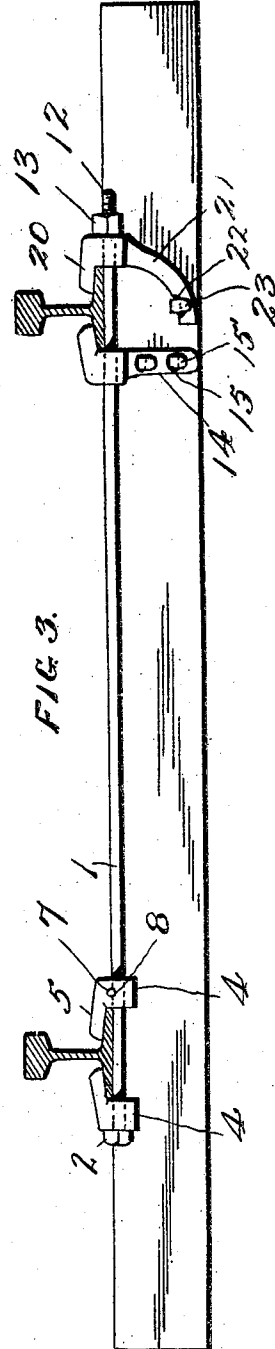


FIG. 3.

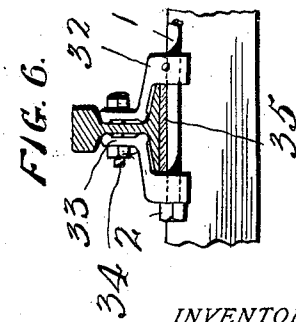
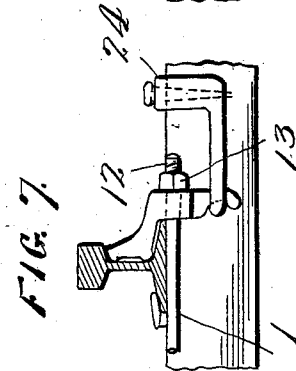
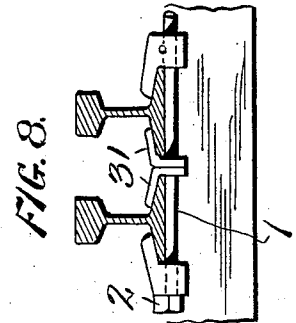
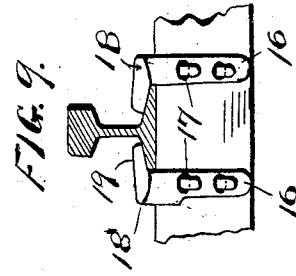
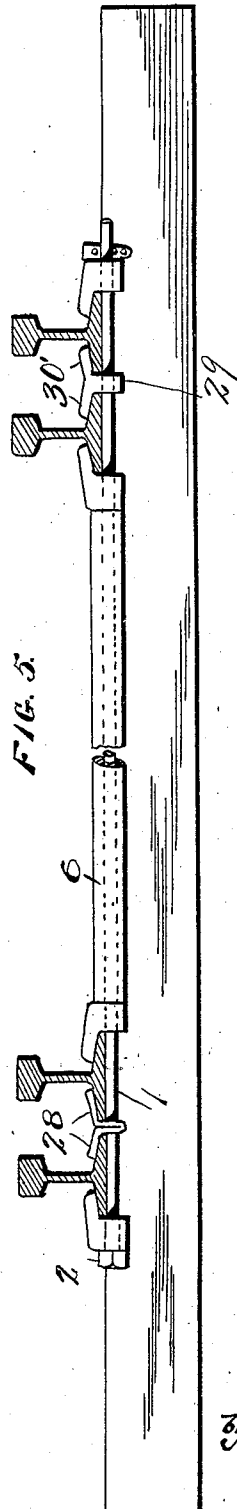
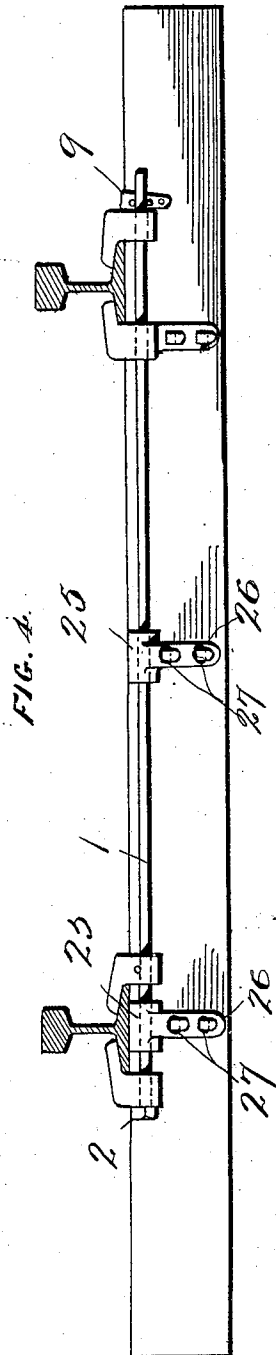
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RAILWAY-TRACK CONSTRUCTION.

937,770.

Specification of Letters Patent.

Patented Oct. 26, 1909.

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To all whom it may concern:

Be it known that I, AMOS J. COOVER, a citizen of the United States, residing at Medway, in the county of Clark and State of Ohio, have invented certain new and useful Improvements in Railway-Track Construction, of which the following is a specification.

My invention relates to improvements in railway track construction, and has for its object the provision of means for bracing and tying the rails of the track.

One object of my invention is also to provide a track brace of very simple, strong and economical construction, which may be applied at any point or position of the track, and which will effectually brace the rails and relieve the side strain at curves and other like points.

Another object of my invention is the provision of a track brace which will securely tie the rails together and prevent spreading of the same, and which in addition will serve to anchor the rails to the road bed.

In ordinary railway track construction, at curves in the road there is always a greater strain placed upon the outer rail and it is another one of the objects of my invention to tie the rails together in such manner as to relieve the outer rail of this greater strain and divide the strain equally between the two rails.

I also aim as one of the objects of my invention to produce a track brace consisting of but few and simple parts which may be readily assembled, the parts capable of different arrangement or combination to suit the different requirements of track construction.

A still further object of my invention is the provision of track bracing and tying means which may be readily adapted to different arrangements of track such as guard rails, frogs, switches and the like, and which may be used equally as well in combination with either one or a number of tracks.

With these and other objects in view, my invention consists of a truss or tie rod adapted to be placed between the rails, and rail clamps either carried by or independent of the tie rod for locking the rails in proper position.

My invention further consists of railway track construction embodying certain other novel features of construction, combination

and arrangement of parts substantially as disclosed herein and as illustrated in the accompanying drawings in which:

Figure 1, is a side elevation of the simplest form of my improved rail clamp and brace shown in connection with the rails. Fig. 2, is a like view of another form of the clamp in which the clamp is so constructed as to anchor the rails to the tie. Fig. 3, is a detail view of a modified form of the clamp used on curves and in like place where there is considerable side strain. Fig. 4, is another view in elevation of another combination of the clamp members. Fig. 5, is a like view of the clamp used in switch construction. Fig. 6, is a detail view of one form of the clamp used for supporting the adjoining ends of the rails. Fig. 7, is a similar view of a novel form of link for anchoring the leverage clamps. Fig. 8, illustrates the angle plates for holding the guard rails in place. Fig. 9, is a view of a modified form of clamp for securing the rails to the tie.

My improved railway track brace consists of a number of clamping members which may be combined in different relations to suit different conditions and construction of track, the clamps illustrated being capable of forty-nine or more different combinations, so at the start it will be apparent that my improved track brace has a wide range of usefulness as it may be readily adapted to different requirements. The simplest form of the brace and which is ordinarily used on level or straight stretches of track to hold the rails in properly spaced relation, consists of a tie rod 1, which is provided with a head 2, upon one end and has a slot 3, in its opposite end. Tubular sleeves 4, are mounted upon the rod upon each side of the rails and rising from the upper side of the sleeves and projecting outwardly beyond the end thereof are the clamping tongues or extensions 5, which preferably flare outwardly from their junction with the sleeve. The tie rod is passed beneath the rails and the clamping extensions of the tubular sleeves engage the foot of the rails. In order to hold the inner clamps properly spaced and in close engagement with the rails, a tubular spacing sleeve or pipe 6, is preferably mounted on the rod, although if so desired the clamp may be secured upon the rod by means of a key 7, as shown in Fig. 3, in which the key or pin is passed through an opening in the clamping sleeve and engages

a notch 8, in the rod, thereby locking the clamp in place. After the clamps have been placed upon the rod in properly spaced relation, a tapered wedge 9, is inserted in the slot in the end of the rod and after being driven tight, the wedge is locked by means of a key or cotter pin 10, which is passed through any one of the series of openings in the wedge. By means of this fastening, should the parts become loosened or worn, it is simply necessary to drive the wedge in a little farther and lock the parts together. A washer 11 may be interposed between the wedge and the outermost clamp if considered necessary. Instead of the wedge-slot fastening, the end of the tie rod may be threaded as at 12, in Fig. 3, and a clamping nut 13, be engaged on the threaded portion of said rod.

The clamps illustrated in Fig. 2, are designed to anchor the rails to the tie or road bed as well as to hold them in properly spaced relation. In this instance, the outer clamps are the same as those illustrated in Fig. 1, but the clamps on the inner side of the rails (or vice versa) are provided with a depending portion or extension 14, having openings 15, therein, through which a spike 15, or other fastening means is passed and driven into the tie. In this way the track is anchored and braced in every direction and by prolonging the length of the tie rod any number of tracks may be tied in the same way by the use of the single rod. The use of the tie rod may be dispensed with entirely by employing the clamp shown in Fig. 9. This clamp consists of a shank 16, having openings 17, therein to receive a spike or other fastening, the shank having an enlarged head 18, at its upper end and provided with an overhanging lip 19, to engage the foot of the rail. This rail fastening is extremely simple and holds the track much more securely than an ordinary spike would.

At curves or in places where there is great lateral strain placed upon the rails, the use of the clamp shown in Fig. 3, is found advantageous. This clamp has a jaw face 20, to engage the foot of the rail and a depending leverage extension 21. A notch or recess 22, is provided in the depending portion of the clamp to receive the spike or fastening means 23. I have also found that the link illustrated in Fig. 7, is useful in anchoring the depending extension of the leverage clamp, the link passing backward from the lower end of the leverage extension and hooked over the top of the tie as at 24, where it may be fastened with a spike or other like way. When so anchored and braced, the outer rail, which is usually subjected to the most strain, is relieved of a great deal of this stress, the tie rod conveying a portion of the stress to the inner rail and thus equalizing the strain. As there might be a tendency for the tie rod to buckle

or bend under different conditions, the tie rod may be anchored at its center as in Fig. 4. Here a sleeve 25, is mounted upon the central portion of the rod, the sleeve having a depending strap 26, provided with suitable openings 27, through which fastenings are passed into the tie. This member thus acts as a truss and serves to secure and strengthen the intermediate portion of the tie rod. Where the simpler form of the clamp is employed, this anchoring means for the rod may be placed directly under the rail as shown to the left in Fig. 4, and the rail is thus more securely anchored in position.

In switch construction or where guard rails are employed, a special spacing clamp may be employed as shown in Fig. 5, the one to the left consisting of a single piece of sheet metal bent to T-shape, the rod passing through the depending portion thereof and the wings 28, of the clamp engaging the foot of each adjoining rail and thus holding the rails properly spaced and anchored in place. The spacing clamp shown to the right in Fig. 5, comprises a sleeve portion 29, which fits over the rod, the sleeve having oppositely flaring wings 30, to engage and hold the foot of the adjacent rails. A more simple form of spacing clamp is illustrated in Fig. 8, the same consisting of a pair of angular plates which are mounted upon the tie rod as shown and have the oppositely extending wing members 31, resting upon the foot of the rails as before.

Under a heavy load, the rails have an inclination to topple over, and to counteract this force, I have designed the clamps shown in Fig. 6, the same consisting of the pair of oppositely inclined angle plates 32, mounted upon the rod at opposite sides of the rail, the plates extending up on each side of the rail and having a flat angular portion 33, in contact with the web of the rail. A fastening bolt 34, is passed through the upper ends of the angular links, bars, or plates and the rail, the whole thus being securely clamped together. There is always considerable pounding at the rail joints and in order to allay this and support the abutting ends of the rails upon a level, a supporting plate 35, may be placed under the rail joint, the plate being supported upon the tie rod.

I have shown a number of different ways in which my rail brace and clamp may be used, but of course it will be understood that different combinations and arrangements of the parts other than the ones shown, may be used as well, according to different construction and requirements of the track.

From the foregoing description taken in connection with the drawings, it will be evident that I have produced a device of the character set forth which fully and satisfac-

torily accomplishes all the results herein stated as the objects of my invention, and one which is thoroughly practical and efficient in every particular.

5 I claim:

1. In a track brace, the combination with a tie rod, of rail clamps carried thereby having depending leverage extensions extended inclinedly to the point beneath the rail, and means for securing the leverage extensions of the clamps to the tie.

2. Combination with means for bracing, staying and spacing the rails of a track, of means carried thereby for supporting the abutting ends of the rail, and an intermediate depending strap for connection with the tie.

3. A track fastening comprising a shank member having a head inwardly directed to engage over the foot of a rail, the shank adapted to lie against the face of the tie and having openings therein to receive fastening means and an intermediate depending member for attachment to the tie.

4. A railway tie comprising a tie rod, clamps on said rod to engage the rails, means for locking the clamps against the foot of the rails, one or more of the clamps having depending angular extensions extending down and inclinedly to the point beneath the rails, and means for securing said extensions to the tie.

5. In combination, a tie rod extending beneath the rails, clamps on the rod to engage the rails, means for locking the clamps in engagement with the foot of the rails, straps having sleeves engaged on the rod, depending leverage extensions inclined angularly

to a point beneath the rail and fastenings securing said straps to the tie.

6. In combination with a tie rod, a clamp thereon to engage the foot of the rail, the clamp having a depending portion, and a link engaging said depending portion of the clamp and having a vertical portion extending over and secured to the top of the tie.

7. A support for rail joints comprising in combination, a tie rod, clamps thereon to engage the foot and web of the rails, fastenings passed through the rails and the web-engaging portions of the clamps, and a plate supported under the rail by the clamp members and the tie rod and engaging the base of the rails beneath the joint.

8. In combination with a railway track, a tie rod extending between the rails, rail clamps mounted on the tie rod, means for securing the clamps in proper position upon the rod, certain of the clamps having depending leverage extensions extending inclinedly to a point under the rail and anchored to the tie.

9. In combination, a rail clamp held in engagement with a rail and having a depending leverage extension inclined downwardly and inwardly to a point in line with the rail, and a device connected to the leverage extension and secured to the upper portion of the tie.

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

AMOS J. COOVER.

Witnesses:

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MYRTLE M. BULL,
WM. H. HANLEY, Jr.