

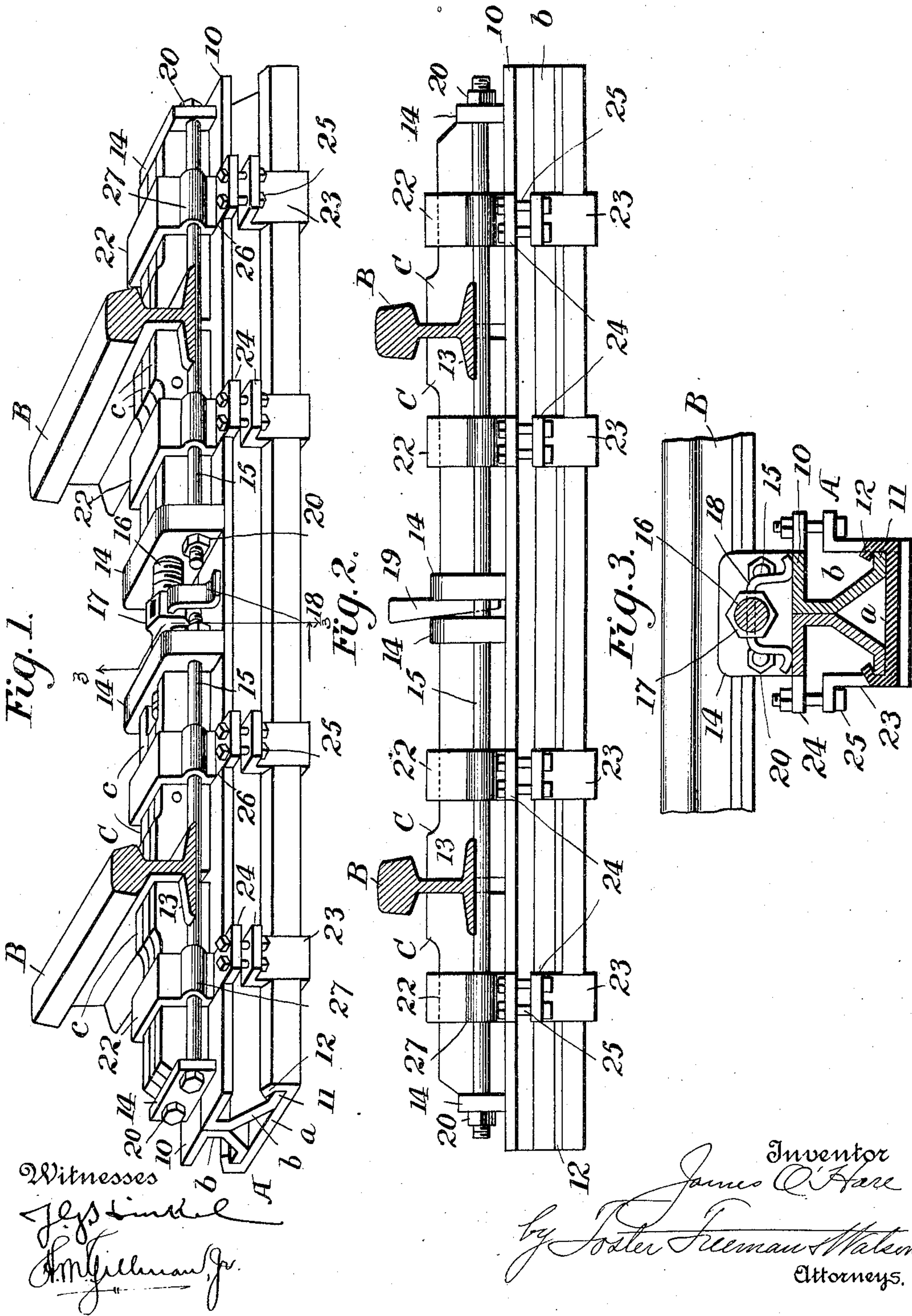
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J. O'HARE.

CLAMP AND SUPPORT FOR RAILWAY RAILS.

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Witnesses

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CLAMP AND SUPPORT FOR RAILWAY-RAILS.

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To all whom it may concern:

Be it known that I, JAMES O'HARE, a citizen of the United States, residing at Greensburg, in the county of Decatur and State of Indiana, have invented certain new and useful Improvements in Clamps and Supports for Railway-Rails, of which the following is a specification.

This invention relates to clamps and supports for railway-rails; and it consists in certain improvements in devices for this purpose whereby the rails are firmly supported and clamped in position, the clamping devices of one rail being connected to and adjustable with respect to those of the parallel rail, whereby the gage of the track may easily be changed without removing the clamping devices from either rail.

The invention will be fully described hereinafter, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of my improved clamping devices connecting two parallel rails and showing means for securing the clamping devices to a cross-tie. Fig. 2 is a similar view showing a modification in the means for connecting and adjusting opposite clamping devices. Fig. 3 is a section on the line 3 3 of Fig. 1.

My improved clamping devices may be used in connection with either wooden or metallic cross-ties, it being necessary only that the tie shall have an approximately flat upper surface in order to afford such support for the clamping devices as will insure the best results, and while, therefore, in the present case I have illustrated and shall describe a preferred form of metallic tie it is to be understood that any other form of tie may be used with my clamping devices.

Referring to the drawings, the cross-tie is indicated by A and is made up of three parts—viz., the base-plate *a* and the uprights *b b*, supported on the base. The uprights *b* engage each other, and each is provided with a horizontal flange 10, which flanges form a flat bearing-surface for the clamping devices. Each upright is also provided with a foot portion 11, which rests upon the base *a*, and

the latter is bent over upon the feet at its end portions, as indicated at 12.

The rails (indicated by B) are supported by clamps, which latter rest upon the upper surface of the tie. The clamps consist of two similar jaws C, one on each side of the rail and each provided with a notch or recess 13 in its inner end to receive the flange of the rail, and the end of the jaw above the recess is adapted to abut squarely against the web of the rail. The part of the jaw below the recess extends under the base of the rail, but preferably does not engage the similar part of the jaw on the other side of the rail. Each jaw of the clamp may be in a single piece; but preferably at joints it will consist of a plurality of similar parts or sections *c*, and these will be of considerable length to have an extended bearing on the tie. The advantage of this extended bearing is that when weight is applied to the rail the inner ends of the jaws will be pressed downward and cause the portions engaging the web to more tightly grip the latter, and the greater the weight on the rail the tighter will the jaws grip the web of the rail.

Some means must be provided for securely holding the jaws C in close engagement with the rail, and while various means may be employed for this purpose I preferably provide plates 14, one at the outer end of each jaw, and provide means for forcing these plates toward each other, and thereby force the inner ends of the jaws into close contact with the rail. In Fig. 1 the end plates 14 of each jaw are connected together by bolt-rods 15, one on each side of the jaw. These rods are threaded at one or both ends to receive nuts 20, by means of which the plates 14 are drawn tightly against the outer ends of the jaws, and the jaws are caused to closely engage the rail. The clamping-jaws and the rail between them can therefore be moved as a unit, and it is necessary to provide some means for holding the parallel rails in proper relation to each other to establish the proper gage. One means for effecting this is shown in Fig. 1, where the plates 14 at the inner opposing ends of a pair of clamps are connected

together by a rod 16, having a right-hand thread on one end and a left-hand thread on the other end, said threaded ends working in threaded openings in the said opposing
 5 plates 14. The rod 16 is provided with an angular portion 17 to receive a wrench by means of which the rod may be turned. As the clamps and rails move as units, it is obvious that by turning the rod 16 the rails B
 10 B can be moved toward or away from each other to get the desired gage and also that the rod 16 will connect them together and prevent their lateral movement relatively to each other as long as the rod is not turned.
 15 Preferably some locking device is employed to prevent accidental turning of the rod 16, and in this case I have shown a spring-lock 18, which is passed through an aperture in the angular portion 17 of the rod and has its
 20 ends bent down against the tie to which they can be bolted, if desired. This spring-lock can be forced away from the rod 16 when it is desired to turn the latter.

In Fig. 2 another means is shown for effect-
 25 ing the adjustable tying together of a pair of clamps respectively gripping one of a pair of parallel rails. In this construction the inner jaws of each clamp are lengthened to such extent that the inner end plate 14 of one jaw
 30 is nearly in contact with the opposing end plate, and a wedge 19 is inserted between them. Only one pair of bolt-rods 15 are employed in this construction, such rods extending through all the plates 14 and provided
 35 with a nut 20 on each end to respectively engage the outer plates 14 of the respective clamps. With this construction when the wedge 19 is fitted between the inner plates 14 the inner jaws of the two clamps will be
 40 prevented from moving toward each other, and by tightening up the nuts 20 on the bolt-rods 15 the outer jaws of the two clamps will be moved toward each other and pressed into tight engagement with the rails. If it is de-
 45 sired to bring the rails closer to each other, the wedge 19 will be loosened or withdrawn to the necessary extent, and then by tightening up the nuts 20 at one or both ends of the bolt-rods 15 each rail and its clamp will move
 50 as a unit toward the other. If it is necessary to move the rails farther apart, the nuts 20 will be first loosened, and then by driving the wedge farther in between the plates 14 the rails and clamps will move away from each
 55 other.

It is necessary to provide some means for securing the rails and clamps against movement on the ties, and while various means may be employed for this purpose I prefer-
 60 ably employ a series of sectional straps secured around the ties and the clamps. As shown in the drawings, each strap consists of two sections, (indicated by 22 and 23,) and each has a lug or ear 24 at each end, which
 65 ears are perforated for the passage of secur-

ing-bolts 25. The upper section of each strap will be shaped to fit snugly over the jaw of the clamp, and the lower section will be shaped to fit on the tie, and when the two sections are bolted together there will be suffi- 70
 cient friction between the strap and clamps to prevent the latter from moving on the tie. To prevent the straps from moving on the tie lengthwise, in the present case the flanges 10 of the tie are notched, as indicated at 26, 75
 to receive the upper sections of the straps. Any other suitable means may, however, be employed for this purpose, and such means will depend upon the kind of tie employed.

Preferably the upper section of the strap 80 will be provided with a laterally-extending lug 27 on each side, which are grooved to receive the bolt-rods 15. The bolt-rods 15 are intended to be in contact with the sides of the clamps, which prevents their being bent 85
 inwardly, and the straps will prevent them from bending outwardly, and altogether the arrangement forms a very rigid support for the rail.

As before stated, the clamp-jaws may be 90 in a single piece, or a plurality of pieces may be employed. At a joint the clamp-jaw should be wider than at intermediate points on the rail, and it will be found economical and otherwise advantageous to use a plu- 95
 rality of parts for the jaws at joints—as, for instance, three, as shown in the drawings. At intermediate points one or two only of the three pieces would be sufficient. All the jaw-
 sections, therefore, can be alike, and it will 100 only be necessary to have the end plates 14 of different lengths and the upper sections of the straps of different sizes to embrace one, two, or three sections.

Without limiting myself to the precise de- 105 tails of construction illustrated and described, I claim—

1. The combination with two parallel rails, of a clamp consisting of relatively adjustable jaws connected to each rail and movable 110 with it, and means for adjustably connecting said clamps together, substantially as set forth.

2. The combination with two parallel rails and a supporting-tie, of a clamp supported 115 on the tie and connected to each rail and movable with it on the tie, and means interposed between the opposing ends of the clamps for varying the distance between said ends, substantially as set forth. 120

3. The combination with two parallel rails and a supporting-tie, of a pair of clamps supported on said tie and connected respec- 125 tively to the respective rails, means for adjustably connecting the clamps to each other, and means for detachably securing the clamps to the tie, substantially as set forth.

4. The combination with two parallel rails and a supporting-tie, of a pair of clamps, sup- 130 ported on the tie and respectively connected

to the respective rails, and a rod between the opposing ends of the clamps having a threaded connection with each clamp to move the clamps toward or away from each other when the rod is turned, substantially as set forth.

5. The combination with two parallel rails and a supporting-tie, of a pair of clamps, supported on the tie and respectively connected to the respective rails, a rod between the opposing ends of the clamps having a threaded connection with each clamp to move the clamps toward or away from each other when the rod is turned, and means for preventing the accidental turning of the rod, substantially as set forth.

6. The combination of a tie, a rail, clamping-jaws between which the rail is tightly gripped, and straps surrounding the tie and jaws, substantially as and for the purpose set forth.

7. The combination of a tie, a rail, clamping-jaws gripping said rail and supported upon the tie, straps surrounding the tie and jaws to hold them against relative movement, and means for preventing the straps from moving on the tie lengthwise thereof, substantially as set forth.

8. The combination with a rail, of a clamp-

ing-jaw on each side thereof provided with end recesses to receive the flange of the rail, plates engaging the outer ends of the jaws, bolt-rods connecting the plates, and nuts on the rods engaging the plates, substantially as set forth.

9. The combination with a rail, of a clamping-jaw on each side thereof provided with end recesses to receive the flange of the rail, plates engaging the outer ends of the jaws, bolt-rods connecting the plates and engaging the sides of the jaws, and nuts on the rods engaging the plates, substantially as set forth.

10. The combination with a rail, of a clamping-jaw on each side thereof, each jaw consisting of a plurality of sections each with an end recess to receive the flange of the rail, end plates engaging the outer ends of said sections, bolt-rods extending through said plates and engaging the sides of the jaws, and nuts on the bolt-rods for engaging said plates, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES O'HARE.

Witnesses:

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