

RAILWAY ROAD BED CONSTRUCTION.

968,156.

2 SHEETS—SHEET 1,

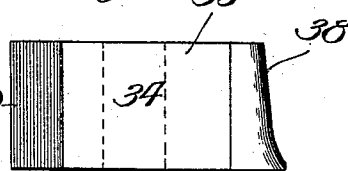
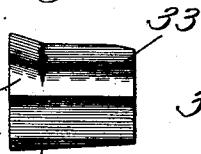
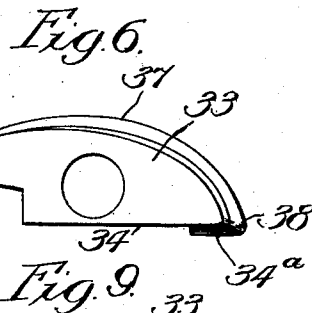
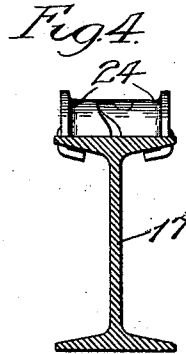
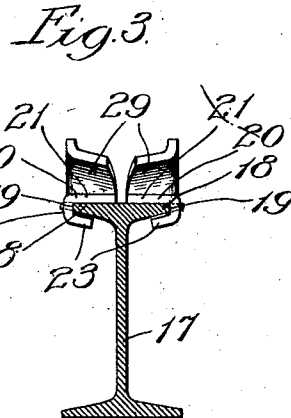


Fig. 9. a 34.

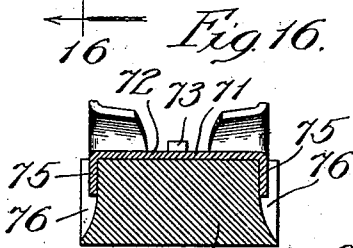
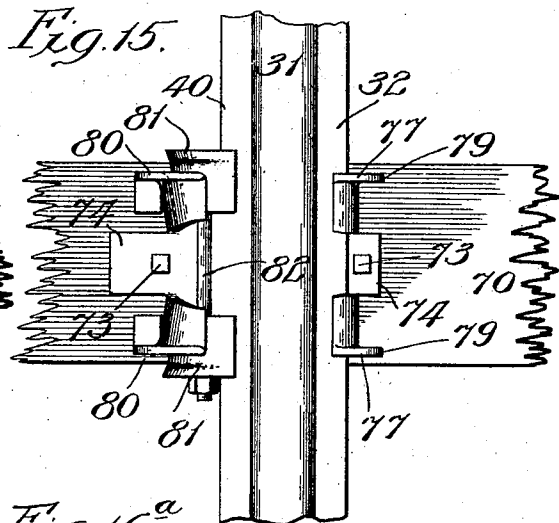
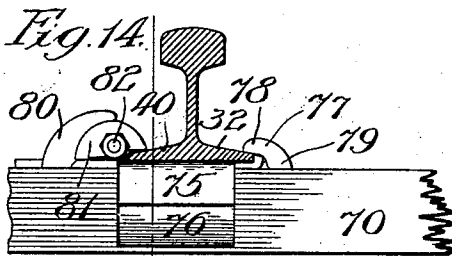
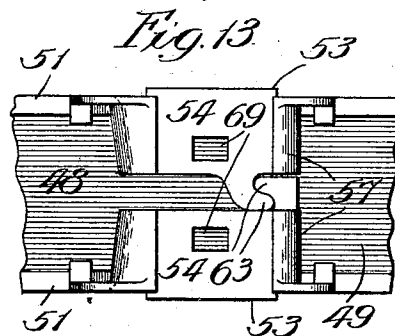
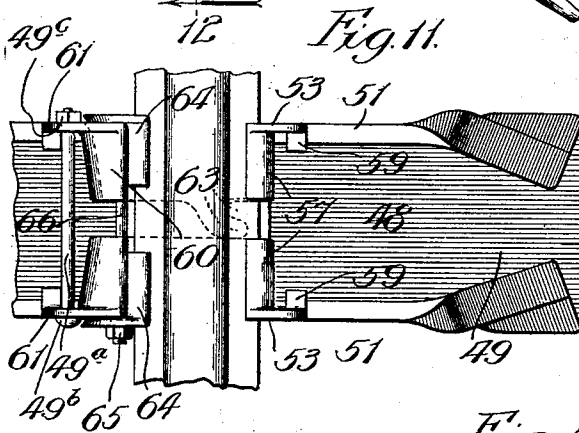
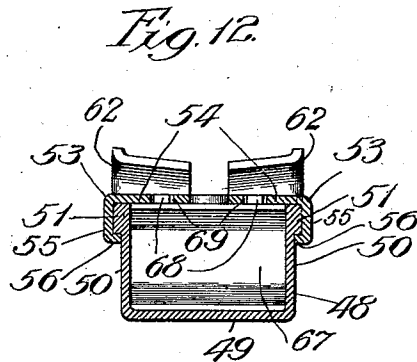
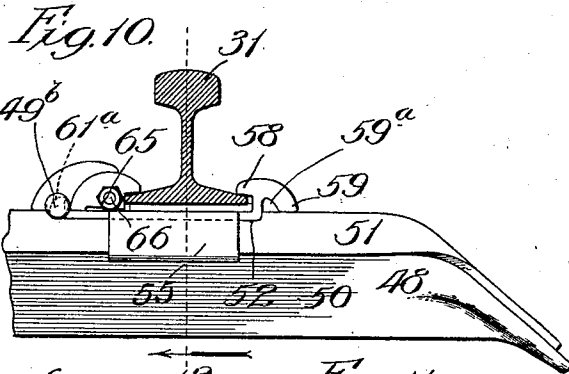
Charles R. Holder.
By Dymforth & L. L. Smith Attys.

C. R. HOLDEN.
RAILWAY ROAD BED CONSTRUCTION.
APPLICATION FILED OCT. 12, 1908. RENEWED FEB. 2, 1910.

968,156.

Patented Aug. 23, 1910.

2 SHEETS-SHEET 2.



Witnesses:
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Fig. 16.
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UNITED STATES PATENT OFFICE.

CHARLES R. HOLDEN, OF CHICAGO, ILLINOIS.

RAILWAY-ROAD-BED CONSTRUCTION.

968,156.

Specification of Letters Patent. Patented Aug. 23, 1910.

Application filed October 12, 1908, Serial No. 457,278. Renewed February 2, 1910. Serial No. 541,602.

To all whom it may concern:

Be it known that I, CHARLES R. HOLDEN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Railway-Road-Bed Construction, of which the following is a specification.

My invention relates, more particularly, to improvement in the means for securing railway-rails in place on ties provided to receive them; and my object, generally stated, is to provide new and improved means for the purpose stated to the end of improving railway roadbed construction.

Referring to the accompanying drawings—Figure 1 shows a railway-tie of the I-beam type with a rail, illustrated in cross-section, secured thereon in accordance with my invention. Fig. 2 is a plan view of the construction shown in Fig. 1. Fig. 3 is a section taken at the line 3 on Fig. 1 and viewed in the direction of the arrow. Fig. 4 is a section taken at the line 4 on Fig. 1 and viewed in the direction of the arrow. Fig. 4^a is a perspective view of a filler employed. Fig. 5 is a perspective view of the rail-clamping blocks forming a part of the construction illustrated in Fig. 1, these blocks being shown in separated condition. Fig. 6 is a view in end elevation of one of the blocks illustrated in Fig. 5, this view representing the block as viewed from its smallest end. Fig. 7 is an end view of one of the blocks of Fig. 5, this view representing the block as viewed from its largest end. Fig. 8 is a view in side elevation of the block represented in Fig. 7, this view representing the block as viewed from the portion thereof carrying the rail-flange-engaging shoulder. Fig. 9 is a bottom plan view of the block shown in Fig. 8. Fig. 9^a is a broken plan view of the top side of the tie represented in the preceding figures. Fig. 10 is a view in side elevation of a U-shaped tie showing a rail, in cross-section, secured thereto in accordance with my invention. Fig. 11 is a plan view of the construction illustrated in Fig. 10. Fig. 12 is a section taken at the line 12 on Fig. 10 and viewed in the direction of the arrow. Fig. 13 is a view like that of Fig. 11 with the rail and the clamping blocks therefor omitted. Fig. 14 is a broken view in side elevation of a solid rectangular shaped tie, showing a rail, in cross-section, secured thereon in accordance with my in-

vention. Fig. 15 is a plan view of the construction illustrated in Fig. 14; Fig. 16, a section taken at the line 16 on Fig. 14 and viewed in the direction of the arrow; and Fig. 16^a is a perspective view of a filler employed in connection with the construction shown in Figs. 10 to 16, inclusive.

In Figs. 1 to 9, inclusive, I have illustrated my invention as applied to a tie of the I-beam type, a portion of which is represented at 17, the outer edges of the upper flanges 18 of the tie being recessed as indicated at 19 at a point on the tie adjacent to that at which it is desired a rail be secured. A pair of clips 20, each preferably stamped from sheet-steel and having a horizontal plate-portion 21, a depending flange 22, and a longitudinally-elongated horizontal inwardly-turned lip 23, fit against the tie from opposite sides, their flanges 22 fitting into the opposed recesses 19, the latter being of slightly greater length than the length of the flanges 22 for a purpose hereinafter disclosed, and the lips 23 fitting against the under side of the tie-flanges 18.

Each clip has formed on one end a lug 24 provided with a shouldered portion 25 and a longitudinally-extending ear 26, the latter abutting against the upper side of the tie. Each clip also carries at its opposite end a lug 27 provided with a longitudinally-extending ear 28 which likewise abuts against the upper side of the tie. The lugs 27 which are of curved shape, with the inner surfaces curved as represented at 29, are so disposed on the clips as to cause the curved surfaces 29 to converge in a direction toward the abutments 24, as clearly represented in Fig. 2. The clips are adapted to be releasably movably connected together at one end on the tie by means of interlocking hooks 30 carried by the inner ends of the abutments 24. The other ends of the clips, which carry the lugs 27, are designed to be held together on the tie by means of a rail-securing device of which the following is a description:

A rail, as for instance the rail 31, rests on the horizontal plate-portions 21 and fits at a flange 32 thereon against the abutments 24 and under the shouldered portions 25 which aline with each other on opposed clips, the rails being releasably held in place thereon by means of a pair of key-blocks 33 adapted to be applied to the clips and rail from opposite sides of the tie. Each block

33 is formed with a flat bottom 34 having a tapering wedge-shaped surface 34^a, and a curved upper side 35, the latter being on a gradual incline with relation to the sides as represented at 36 in the drawing and sharply inclined thereto as indicated at 37, its lower rear edge being inclined with relation to its median line, as indicated at 38, and its forward edge-portion carrying a lip 39. The blocks 33 are inserted between the clips proper and the lugs 27 to cause them, at their inclined edges 38, to engage with the lower portion of the walls 29, at their inclined surfaces 36 to bear against the surfaces of the curved walls 29, and at their wedging surfaces 34^a against the seating-portion of the clips. The movement of the blocks 33 inwardly, while in engagement with the lugs 27, causes them to be forced against the curved walls 29 and thus be moved toward the rail and turned down at their lips 39 against the outer flange 40 of the rail 31 for holding the latter securely in position. The described action of the blocks 33 is caused by their movement against the curved and tapering undersides of the lugs 27 which have the effect of moving the blocks toward the rail as well as turning the blocks down at their lips 39, this action being augmented by the added turning action afforded by the engagement of the wedging surfaces 34^a with the seating portion of the clips.

A bolt-device is provided for drawing the blocks together to perform the clamping function, the form of the device shown comprising a bolt 41 formed integrally with one key-block of the set and sliding through the other key-block of the set, a nut 42 screwing upon the threaded end of the bolt for forcing the key-blocks together. When the blocks are drawn together as described, the inclined surfaces 36 are forcibly wedged against the curved walls 29 of the lugs 27, and thus the bolt 41 is aided in preventing the key-blocks from becoming separated. The surfaces 37 serve to enhance the wedging action when the key-blocks are driven sufficiently far under the lugs 27 to cause them to engage with the curved surfaces 29.

The rail may first be placed on the tie in the position it is intended it should assume thereon, and the clips 20 may then be applied to the tie and under the rail, by first hooking the clips together, while in engagement with the tie, at their hooks 30. The clips may then be swung in a horizontal plane, with the hooks as a pivot, to cause them to seat on the tie at their opposite ends, whereupon the keys are applied to the clips as hereinbefore described.

As hereinbefore pointed out, the recesses 19 are slightly longer than the flanges 22 for the purpose of permitting adjustment of the clips and the rail on the tie. To hold

the clips in adjusted position, I provide transverse recesses in the tie at one end of the recesses 19, and at a point beyond the other ends of these recesses, and at opposite sides of the tie, as indicated at 43 and 44, respectively, these recesses being designed to receive a filler 45. This filler is preferably formed of a bar 45^a having depending lugs 45^b which fit into either of the recesses 43 or 44. Thus when the clips are in the position illustrated in Fig. 1, the filler fits in the recesses 43 and recesses 46 formed in the lugs 27, and abuts against the adjacent ends of the recesses 19 and the adjacent ends of the flanges 22; and when adjustment of the clips from this position to a position farther to the left in Fig. 1 is desired, the filler 45 is removed from the recesses 43, the clips 20 are then moved along the tie to the left in Fig. 1 to engage with the end walls of the recesses 19 at the left-hand side in Fig. 1, and the filler is then inserted into the recesses 44 and alining recesses 47 in the lugs 24. It will thus be apparent that, when a pair of rails are secured near opposite ends of a tie by my improved fastening-means, the rails may be adjusted on the tie to cause them to be spaced the desired distance apart under varying conditions.

Figs. 10 to 13, inclusive, illustrate my invention embodied in a U-shaped tie. The tie is represented at 48 and comprises a bottom-plate 49 and two upright flanges 50, each having its upper edge-portions provided with exterior ribs 51 extending approximately throughout the length of the tie with recesses 52 in the upper edges of the opposed tie-flanges. Clips 53, each formed of a horizontally extending plate 54 extending part-way across the tie and fitting in the recesses 52, and depending flanges 55 with inturned lips 56, embrace the tie at its ribs 51, the lips 56 fitting under the latter as represented. Each clip carries at one end a transversely extending lug or abutment 57 formed with an undercut portion 58 and an extension 59 resting against the upper edge of the adjacent tie-flange, and each clip at its opposite end carries a lug 60 provided with a rearwardly extending ear 61 resting against the upper edge of the adjacent tie-flange. Each of the lugs 60 is formed with a curved surface 62 like the surfaces 29 of the lugs 27 of the preceding figures, the lugs 60 being disposed as described of the lugs 27. The plates 54 at their adjacent edges are provided with hook-shaped lugs 63 adapted to interlock with each other as represented in Fig. 13. The recesses 52 in the tie-flanges are slightly longer than the portions of the clips that seat in them for the purpose of affording adjustability to the clips upon the tie, and for this purpose the extensions 59 and 61

are provided with downwardly-opening recesses 59^a and 61^a, respectively, designed to register with the opposite ends of the recesses 52 depending on the position of adjustment of the clips, thus when the clips are positioned as shown in Fig. 10, the recesses 61^a register with the adjacent ends of the recesses 52. A filler 49^a extends across the tie fitting in the space provided in the recesses 52 between the end-walls of the latter and the adjacent ends of that part of the clip which seats in the recesses 52 and in the recesses 59^a or 61^a depending on the position of adjustment of the clips, in the drawings the filler fitting in the recesses 61^a. The filler 49^a is designed to be introduced laterally into position and bear at a head 49^b thereon against the face of the adjacent lug, a nut 49^c screwing on the opposite end of the filler permitting the latter to be secured in position against displacement. It is manifest that adjustment of the clips may be effected by removing the filler 49^a and thence sliding the clips in the recesses 52, whereupon the filler may be inserted at the opposite end of the recesses and secured in place as described and the clips be firmly held in position.

The rail 31 may first be applied to the tie 50 to the position which it is intended it should occupy when clamped thereto. The clips 53 are then applied to the tie from opposite sides to interlock the lugs 63 with each other, whereupon the clips are drawn in a direction toward each other at their free ends to position them on the tie as described, the clips turning upon their hooked portions as a fulcrum. The clips 53 are secured in place on the tie and the rail 31 to the clips through the medium of key-blocks 64, like the key-blocks 33 of the preceding figures. The blocks 64 are applied to the clips and rail, to secure them to the tie from opposite sides of the latter, into engagement with the surfaces 62 of the lugs 60, the key-blocks being moved to clamping position by manipulating a nut 65 carried on the threaded end of a bolt 66 engaging with the blocks as described of the bolt 41.

Where it is desired to afford supplementary reinforcing means for preventing displacement of the clips 53, the block 67 may be employed, this block seating in the channel provided between the flanges 50 of the tie and extending at lugs 68 thereon into registering relatively larger openings 69 in the plates 54, it being understood that when this block is used it should be moved into position in the tie before the clips are applied to the latter.

In Figs. 14 to 16, inclusive, I have illustrated my invention as applied to a solid tie, represented at 70, of rectangular or other suitable shape, in cross-section, as for instance an ordinary wooden tie. In this construc-

tion, the clip for the tie, which is preferably made integrally from sheet-steel, and is represented at 71, instead of being formed in two separable parts, is made in one part and has a horizontal plate-portion 72 resting upon the top of the tie and bolted or otherwise secured to the tie as represented at 73, at extensions 74 thereon, and depending flanges 75 at its sides which fit into recesses 76 in the opposed sides of the tie. The clip is provided at one end with two spaced lugs 77, forming abutments, having undercut alining shoulders 78 and lips 79 extending therefrom and resting on the upper edge- portions of the tie. The clip at its opposite end carries two lugs 80, each of which is of the same construction as the lugs 60 represented in Figs. 10 to 13, inclusive.

The clip 71 is first applied to the tie, whereupon the rail is seated on the clip to cause its flange 32 to extend against the lugs 77 and into the undercut portions 78. With the rail in position, key-blocks 81, like the key blocks 33 of the preceding figures, are introduced into engagement with the lugs 80 and the flange 40 of the rail, from opposite sides of the tie, these blocks being moved into clamping position through the medium of a bolt-device 82, as described of the bolt-device 41 of Figs. 1 to 5, inclusive.

It will, of course, be understood that in placing my invention in practice a clip-device and rail-clamping means will be provided on the opposite ends of the tie, in the case of each of the constructions described herein. It is, therefore, to be understood that no undue limitation is intended by the illustrating and describing of a portion of a tie only showing one rail-securing device thereon.

Rail-fastening means constructed in accordance with my invention are of exceedingly simple form, requiring the minimum number of fastening means, such as bolts, or the like, and afford positive and reliable means for securing the rail to the tie.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination of a support for a rail, an abutment on the support for one side of the rail, a second abutment on the support provided with a curved under surface, a rail-securing key provided with a rail-engaging portion and adapted to extend under said second abutment and in contact with the curved surface thereof, and means for moving the key against said curved surface for forcing the rail-engaging portion of the key against the rail.

2. The combination of a support for a rail, an abutment on the support for one side of the rail, a second abutment on the support provided with a curved under surface, a rail-securing key provided with a rail-engaging portion and adapted to extend

under said second abutment and in contact with the curved surface thereof, and means on the key for moving the latter against said curved wall for forcing the rail-engaging portion of the key against the rail.

3. The combination of a support for a rail, an abutment on the support for one side of the rail, a second abutment on the support provided with a curved under surface, a rail-securing key provided with a rail-engaging portion and adapted to be moved under said abutment into contact with the curved surface thereof, and wedging means on the key for forcing the rail-engaging portion of the key against the rail when the key is moved under the abutment.

4. The combination of a support for a rail, an abutment on the support for one side of the rail, a second abutment on the support provided with a curved under surface, a rail-securing key provided with a rail-engaging portion and adapted to be moved under said abutment into contact with the curved surface thereof, and a wedging surface on the under side of said key for turning the latter against said curved wall and forcing the rail-engaging portion of the key against the rail when the key is moved under the abutment.

5. The combination of a support for a rail, an abutment on the support for one side of the rail, a second abutment on the support provided with a curved under surface, and a rail-securing key provided with a rail-engaging portion, an inclined edge-portion, and a wedging surface on its under side, said key being adapted to be introduced under said abutment and in contact with the curved surface thereof, whereby the key is caused to be turned against said curved surface and bear at its rail-engaging portion upon the rail.

6. The combination of a support for a rail, an abutment for one side of the rail, a pair of abutments on said support each provided with a curved under surface, rail-flange-engaging keys each provided with a rail-engaging portion and adapted to extend under said pair of abutments and in contact with the curved surfaces thereof, and means for moving the keys against said curved surfaces for forcing the rail-engaging portions of the key against the rail.

7. The combination of a support for a rail, an abutment for one side of the rail, a pair of abutments on said support each provided with a curved under surface, rail-flange-engaging keys each provided with a rail-engaging portion and adapted to extend under said pair of abutments and in contact with the curved surfaces thereof, and means on said keys for moving them against said curved surfaces and forcing the rail-engaging portions of the keys against the rail.

8. The combination of a support for a rail, an abutment for one side of the rail, a pair of abutments on said support each provided with a curved under surface, rail-flange-engaging keys each provided with a rail-engaging portion and adapted to extend under said pair of abutments and in contact with the curved surfaces thereof, and wedging means on the keys for moving the latter against said curved surfaces and forcing the rail-flange-engaging portions of the keys against the rail.

9. The combination of a support for a rail, an abutment for one side of the rail, a pair of abutments on said support each provided with a curved under side, and rail-flange-engaging keys each provided with a rail-engaging portion, an inclined edge, and a wedging surface on its under side, said keys being adapted to be introduced under said pair of abutments into engagement with the curved surfaces thereof, whereby the keys are caused to be turned against said curved surfaces and forced at their rail-flange-engaging portions down and against the rail.

10. The combination of a support for a rail, an abutment on the support for one side of the rail, a pair of abutments on said support each provided with a curved under surface, said curved surfaces converging with relation to each other, rail-flange-engaging keys adapted to be inserted under said pair of abutments and into engagement with the curved surfaces thereof, and means on the keys for engaging with said pair of abutments to cause the keys to be moved against said curved surfaces, thereby to force the keys at their rail-flange-engaging portions against the rail.

11. The combination of a support for a rail, an abutment for one side of the rail, a pair of abutments on said support each provided with a curved under surface, said curved surfaces converging with relation to each other, rail-flange-engaging keys each provided with a rail-flange-engaging portion, adapted to be inserted under said abutments from opposite sides of the support and engage with said curved surfaces of the abutments, and wedging means on the keys engaging with said pair of abutments for moving the keys against said curved surfaces to force the keys at their rail-flange-engaging portions against the rail, upon the act of inserting the keys under said pair of abutments.

12. The combination of a support for a rail, an abutment on the support for one side of the rail, a second abutment on the support provided with a curved inclined under surface, a rail-securing key provided with a rail-flange-engaging portion and with a curved inclined surface adapted to extend under said abutment and in contact

with the curved surface thereof and be moved transversely of said support, and means for moving said key against said curved surface of the abutment, whereby the key is caused to bear at its rail-flange-engaging portion against the rail and become wedged against said curved surface.

13. The combination of a support for a rail, an abutment on the support for one side of the rail, a second abutment on the support provided with a curved inclined under surface, a rail-securing key provided with a rail-flange-engaging portion and with a curved inclined wall adapted to extend under said abutment and in contact with the curved surface thereof and be moved transversely of said support, and means on the key for engaging with the lower portion of the curved wall of said second abutment for moving the key against the curved surface of said second abutment, whereby the key is caused at its rail-flange-engaging portion to bear down and against the rail and in its movement transversely of the support be wedged into close engagement with the curved surface of said abutment.

14. The combination of a support for a rail, an abutment on the support for one side of the rail, a second abutment on the support provided with an undercut inclined surface converging with relation to a rail seated on the support, a rail-securing key adapted to be inserted into engagement with said second abutment and provided with a rail-flange-engaging portion, and means on the key serving, when the latter is moved transversely of the support into engagement with said second abutment, to cause the key at its rail-flange-engaging portion to be turned down and against the rail.

15. The combination of a support for a rail, an abutment on the support for one side of the rail, a pair of abutments on the support each provided with a curved inclined under surface, said curved surfaces converging with relation to each other, a pair of rail-securing keys each provided with a rail-flange-engaging portion and a curved inclined surface, said keys being adapted to extend under said pair of abutments from opposite sides of the support and into contact with the curved surfaces thereof and be moved transversely of said support, and means for moving said keys against the curved surfaces of said pair of abutments, whereby the keys are caused at their rail-flange-engaging portions to be turned down and against the rail and be closely wedged against said pair of abutments in their movement transversely of the support.

16. The combination of a support for a rail, an abutment for one side of the rail, a pair of abutments on said support each

provided with a curved surface, rail-flange-engaging keys each provided with a rail-flange-engaging portion and adapted to extend under said pair of abutments from opposite sides of the support and in contact with the curved surfaces of said abutments, means for moving the keys toward each other, and means for moving the keys against the curved surfaces in a direction to cause them to be turned down and against the rail at their rail-flange-engaging portions.

17. The combination of a support for a rail, an abutment on the support for one side of the rail, a pair of abutments on said support each provided with a curved inclined under surface, said curved surfaces converging toward each other, rail-flange-engaging keys each provided with a rail-flange-engaging portion and with an inclined edge-portion, said keys being adapted to be inserted under said pair of abutments and into engagement with the curved surfaces thereof, and means for moving the keys together, whereby the keys, in engaging with the curved surfaces of said pair of abutments, are caused to be turned at their rail-flange-engaging portions down and against the rail.

18. The combination of a support for a rail, an abutment on the support for one side of the rail, a pair of abutments on the support each provided with a curved inner surface, rail-flange-engaging keys each provided with a rail-engaging portion and adapted to extend under said pair of abutments from opposite sides of the support and in contact with the inner curved surfaces of said abutments, a bolt-device connecting the keys together in a manner to cause the keys to be movable relative to one another on the bolt, means on the bolt for moving the keys together, and means on the keys engaging with said pair of abutments for moving the keys at their curved surfaces against the curved surfaces of said pair of abutments to cause the keys to be turned at their rail-flange-engaging portions down and against the rail.

19. The combination of a support for a rail, a pair of clips adapted to be applied to the opposite sides of the support, an abutment for one side of the rail, an abutment on one of the clips having a curved under surface, means for connecting the clips together at one end, a key operatively connected with the other of said clips and constructed and arranged to engage with said curved surface of the abutment, means for drawing said key toward said last-referred to clip to secure them together, and means for moving the key against said curved surface in a direction to cause said key to be turned at its rail-flange-engaging portion down and against the rail.

20. The combination of a support for a rail, a pair of clips adapted to be applied to the opposite sides of the support, an abutment for one side of the rail, an abutment on one of the clips having a curved under surface, said clips being movably connected together, a key operatively connected with the other of said clips and constructed and arranged to engage with said curved surface of the abutment, means for drawing said key toward said last-referred to clip to secure the clips together at their free portions, and means for moving the key against said curved surface of the abutment for turning the key in a direction to cause its rail-flange-engaging portion to engage with the rail.

21. The combination of a support for a rail, a pair of clips adapted to be applied to the opposite sides of the support, an abutment for one side of the rail, an abutment on one of the clips having a curved under surface, said clips being separably movably connected together, a key operatively connected with the other of said clips and constructed and arranged to engage with said curved surface of the abutment, means for drawing said key toward said last-referred to clip to secure the clips together at their free portions, and means for moving the key against said curved surface of the abutment for turning the key in a direction to cause its rail-flange-engaging portion to engage with the rail.

22. The combination of a support for a rail, a pair of clips adapted to be applied to the opposite sides of the support, an abutment for one side of the rail, an abutment on each of said clips each having a curved under surface, means for connecting the clips together at one end, a pair of keys constructed and arranged to extend under the abutments on the clips from opposite sides of the support and to engage with the curved surfaces of said abutments, means for drawing the keys toward each other for securing the clips together, and means for moving the keys against said curved surfaces of the abutments, in a direction to cause the keys to be turned down and against the rail.

23. The combination of a support for a rail, a pair of clips adapted to be applied to the opposite sides of the support, abut-

ments on the clips for one side of the rail, a pair of abutments on the clips each spaced from said first-named abutments and each provided with a curved under surface, means for connecting the clips together at one end, a pair of keys adapted to extend under said pair of abutments from opposite sides of the support to engage with the curved surfaces of said abutments, means for drawing said keys toward each other to secure the clips together at their free portions, and wedging means carried by the keys and engaging with the curved surfaces of said abutments for turning the keys in a direction causing them to be forced down and against the rail.

24. The combination of a support for a rail, a pair of clips adapted to be applied to the opposite sides of the support, abutments on the clips for one side of the rail, a pair of abutments on the clips spaced from said first-named abutments and each provided with an inclined curved under surface, said curved surfaces converging with relation to each other, means for connecting the clips together at one end, a pair of keys each provided with a curved inclined surface and an inclined edge-portion, said keys being adapted to extend under said pair of abutments from opposite sides of the support to engage with the inclined curved surfaces of said abutments, and means for drawing the keys together, whereby the inclined edge-portions of the keys are caused to engage with said last-referred to abutments and turn the keys to cause them to bear against the rail, and the inclined curved surfaces of the keys to be closely wedged against the curved surfaces of the abutments transversely of the support.

25. The combination of a support for a rail provided with recessed portions at its opposite sides, a clip formed of two separable parts adapted to be applied on opposite sides of the support and extend into the recessed portions thereof to be adjustable thereon, and means for securing the clip in adjusted position on the support.

CHARLES R. HOLDEN.

In presence of—

RALPH SCHAEFER,
L. KIRKLAND.