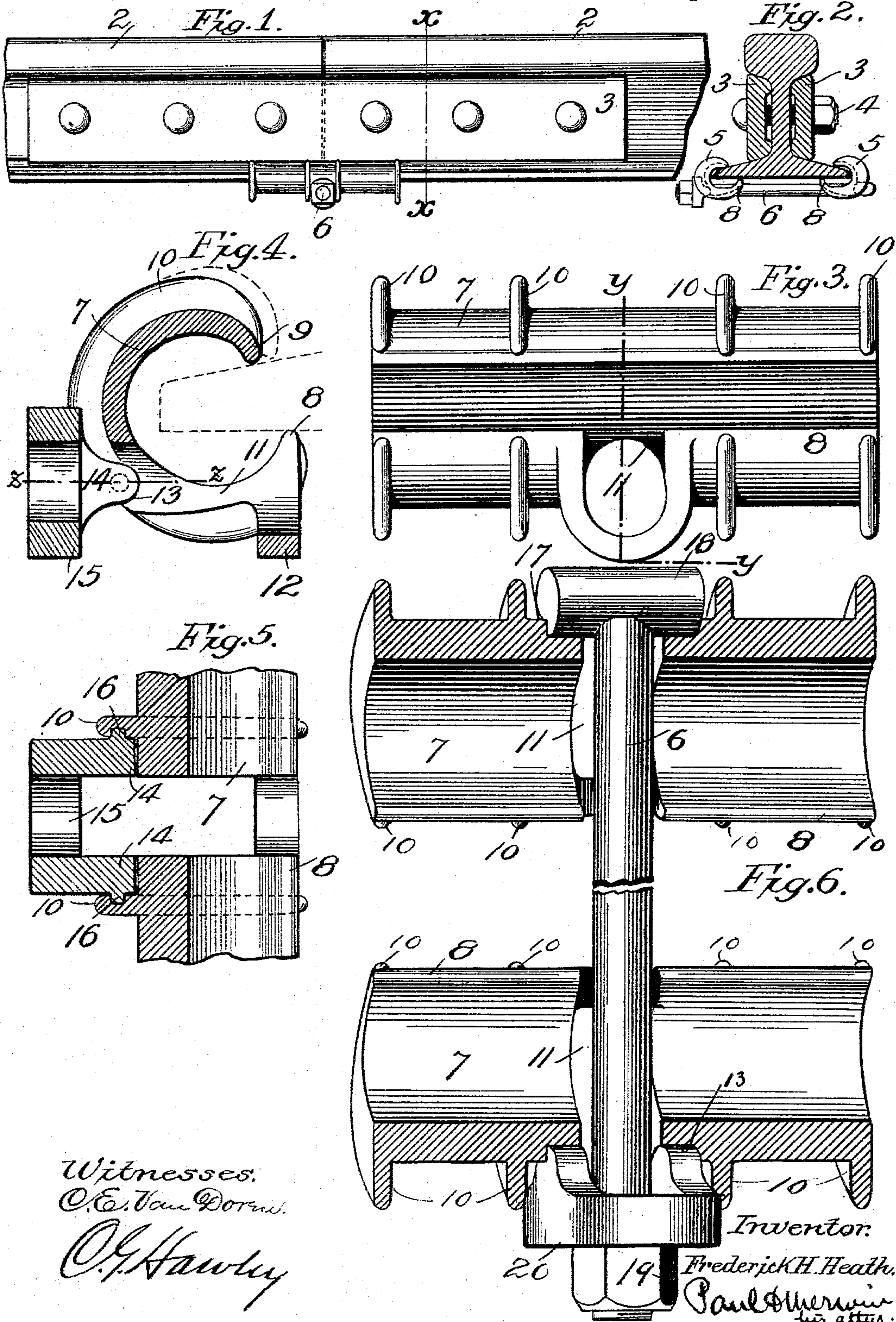


(No Model.)

F. H. HEATH.
RAIL CLAMP.

No. 495,001.

Patented Apr. 4, 1893.



Witnesses,
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Inventor.

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UNITED STATES PATENT OFFICE.

FREDERICK H. HEATH, OF MINNEAPOLIS, MINNESOTA, ASSIGNOR TO THE
HEATH RAIL JOINT COMPANY, OF SAME PLACE.

RAIL-CLAMP.

SPECIFICATION forming part of Letters Patent No. 495,001, dated April 4, 1893.

Application filed May 21, 1892. Serial No. 433,910. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK H. HEATH, of Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain
5 Improvements in Rail-Clamps, of which the following is a specification.

My invention relates to a grip clamp having a rocking motion for joining and aligning the ends of rails and for supporting said ends
10 to prevent their being driven down by the weight of the passing train and the object of the invention is to provide a more simple, a cheaper, a more durable and a more readily handled rail clamp, arranged to engage the
15 flanges of the rails and by means of which they may be accurately aligned and solidly connected. To this end I employ a pair of curved rocker-clamps, using the same in connection with a transverse bolt extending be-
20 neath the rail-bases and by means of which the clamps may be forced firmly thereon.

The invention will be more readily understood by reference to the accompanying drawings, forming a part of this specification, in
25 which:—

Figure 1 is a side elevation of two rails secured by devices embodying my invention. Fig. 2 is a transverse sectional elevation on the line $x-x$ of Fig. 1. Fig. 3 is an enlarged
30 view of the inside of one of my rail-clamps. Fig. 4 is a sectional view thereof on the line $y-y$ showing also the independently movable washer, through which the threaded end of the bolt passes. Fig. 5 is a horizontal section on the line $z-z$ of Fig. 4. Fig. 6 is a horizontal
35 sectional view showing a complete rail clamp assembled.

As shown in the drawings, 2, 2 represent the ends of the rails. These rails may be secured
40 together and strengthened against side strain by the usual fish-plates 3 arranged one on each side thereof and fastened upon the rails by short bolts 4 which pass through the rail webs. This leaves the flanges of the rail-bases free at
45 the edges to receive the clamping edges of the two curved rocker-clamps 5 adapted to engage the top and bottom of the rail base and secured by the transverse bolt 6.

The particular construction of the clamping
50 ing block is shown in Figs. 4 to 6 where it will be seen that the main portion 7 presents the

appearance of an open sided tube with one of its sides bent inwardly so that the lower clamping edge 8 engages the bottom of the rail bases farther in than the upper clamping
55 edge 9 resting upon the top of the base. Now it will be seen that when the clamp is drawn downwardly and inwardly the edges 8 and 9 being thrown more nearly into the same horizontal plane will be forced firmly upon the
60 rail-base from beneath and above tending to bend down the outer edge thereof. This vertical clamping action upon the rail-bases of the two rails draws the same into the same horizontal position. The part 7 is strength-
65 ened by four or more of the projecting ribs 10 and in its lower side is provided with the transverse slot or notch 11, the inner and lower parts of the clamp being strengthened and prevented from spreading by the bridge
70 clamp 12. Upon the outer side and at each side of the slot 11 I arrange the small horizontal seats 13 in which the semicylindrical or curved ends 14 of the self-adjusting washer
75 15 are adapted to rest. The washer is preferably fastened upon the clamping-block in manufacture, the washer being first cast with the small nibs or lugs 16 which extend into the mold for the clamp and when the metal is
80 poured into said mold these round lugs are embedded therein. By striking the washer after the clamping-block has cooled the lugs may be loosened in their sockets so that the washer will swing with respect to the block. The clamping-block for the other side of the
85 rail has simply a deep cylindrical seat 17 like that numbered 13 and adapted to receive the curved inner side of the integral T—or cross head 18 of the bolt 6. The threaded end of the bolt extends through the hole in the
90 washer and is fastened by the nut 19 which bears against the square or flat outer end 20 of the washer. It is obvious that after placing the two rocker clamps upon opposite sides of the rail bases and passing the bolt 6 be-
95 neath the rail and through the slots 11 and the washer of the clamp the clamps may be drawn firmly into place by tightening the nut 19, the bolt 6 serving as an adjustable truss, and always maintaining a free horizontal po-
100 sition owing to the manner of pivoting the ends thereof.

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

1. As a new article of manufacture, a rail-clamp having the curved form and the slotted lower side and provided with the strengthening ribs 10 and the longitudinal bridge 12, substantially as described.
2. As a new article of manufacture, the rail-clamp having the main body 7 provided with the slot 11, the strengthening ribs 10, the longitudinal bridge 12 and the longitudinally arranged seat, substantially as described.
3. As a new article of manufacture, the curved rocker clamp made up of the main body 7 having the clamping edges 8 and 9 and the strengthening ribs, the lower part of the same being provided with a slot to receive a bolt and having the adjustable pivoted washer described.
4. The combination with the rails, of the two curved rocker-clamps, each provided with clamping edges 8 and 9 which engage the rails, and an adjustable transverse bolt 6, substantially as described.
5. The combination with the rails, of the two clamping blocks, each provided with the clamping edges which engage the rail bases, each of said blocks provided with a longitudinal seat, an adjustable washer pivoted in one

of them and a T-head bolt having its head pivoted in the other and its threaded end secured in said washer, substantially as described.

6. The combination with the rail or rails, of the two curved rocker clamps having the edges 8 and 9, said edges 9 extending inwardly farther than the edges 8, each of said clamps being strengthened by ribs 10, each provided with a longitudinal seat or recess and with a slot 11, the T-head bolt, the locking nut thereof, and the adjustable or pivoted washer substantially as described.

7. The combination with the rail or rails of the rocker clamps 5 having the edges 8 and 9 and the strengthening ribs, the lower side of each clamp being provided with a transverse slot, the bolt having the head 18 and nut 19, each block provided with a recess or seat, said head resting in one of them, and the washer 15 having the lugs 14 confined in the seat of the other clamp and having the lugs or ribs 16 whereby the washer is secured thereon, substantially as described.

In testimony whereof I have hereunto set my hand this 17th day of May, A. D. 1892.

FREDERICK H. HEATH.

In presence of—

C. G. HAWLEY,

F. S. LYON.