

(No Model.)

J. R. MILLHOUSE.

RAILROAD TIE AND RAIL FASTENING.

No. 388,296.

Patented Aug. 21, 1888.

Fig. 1.

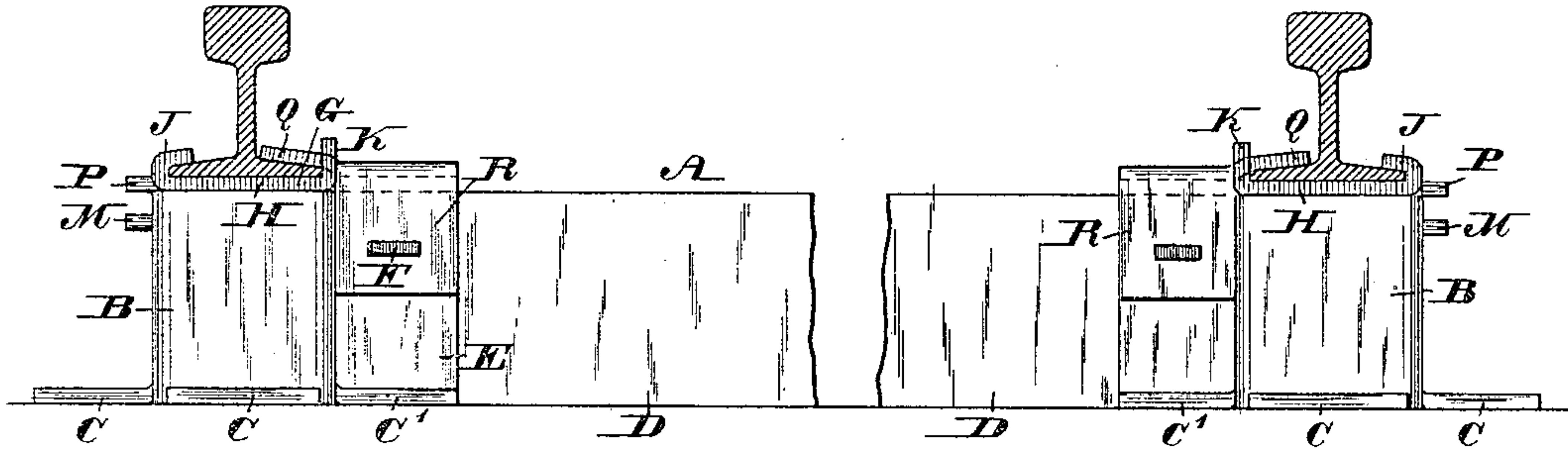


Fig. 2.

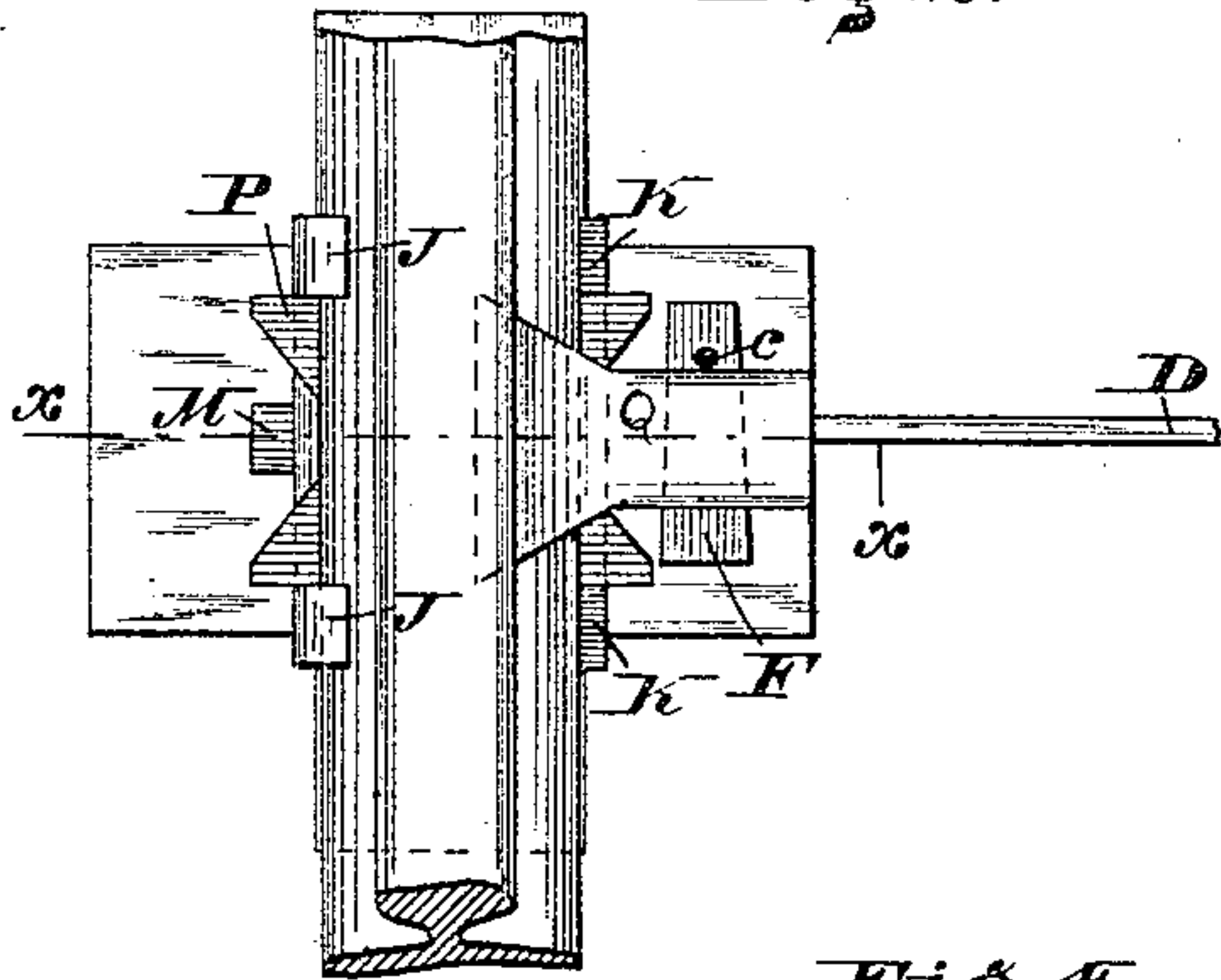


Fig. 3.

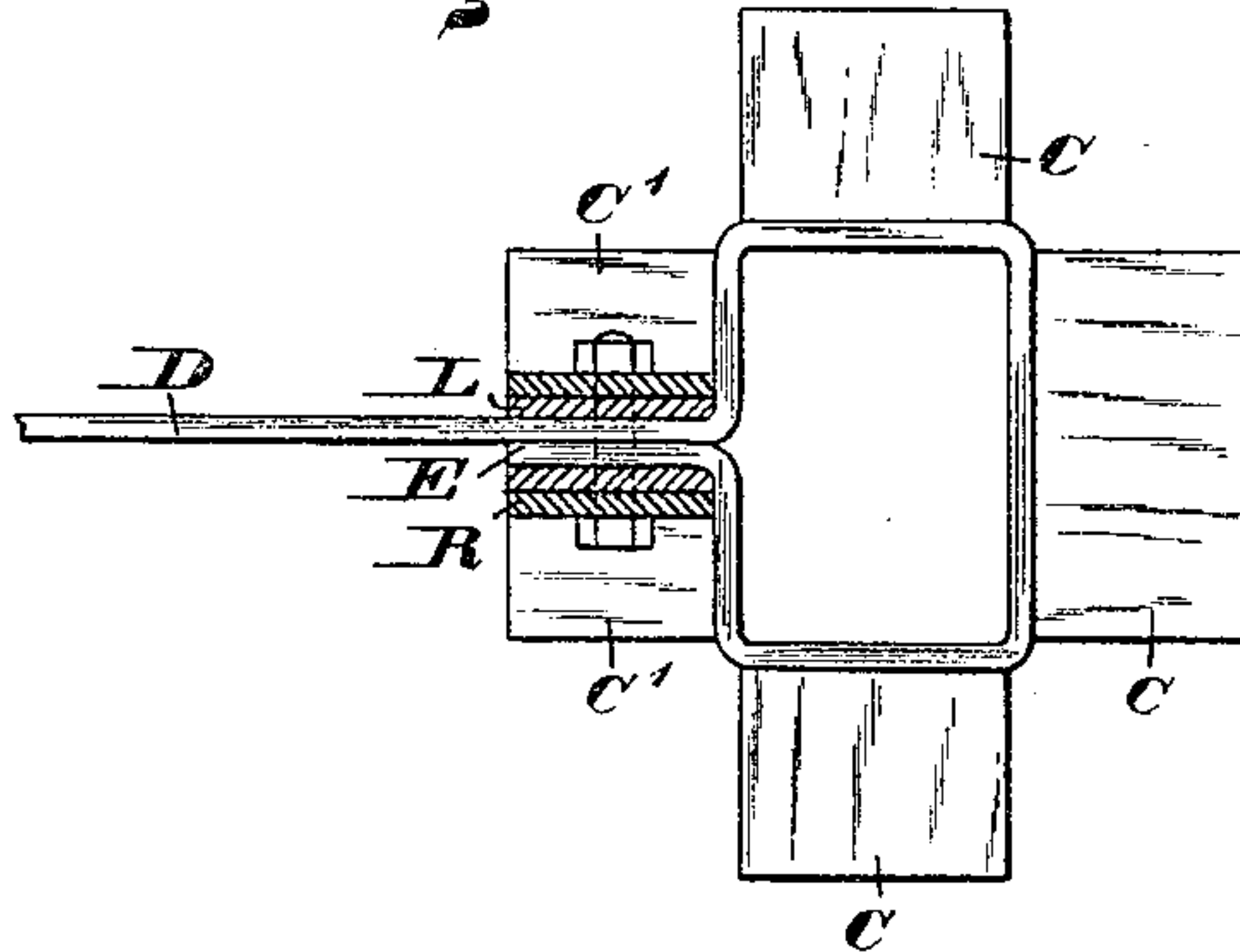


Fig. 4.

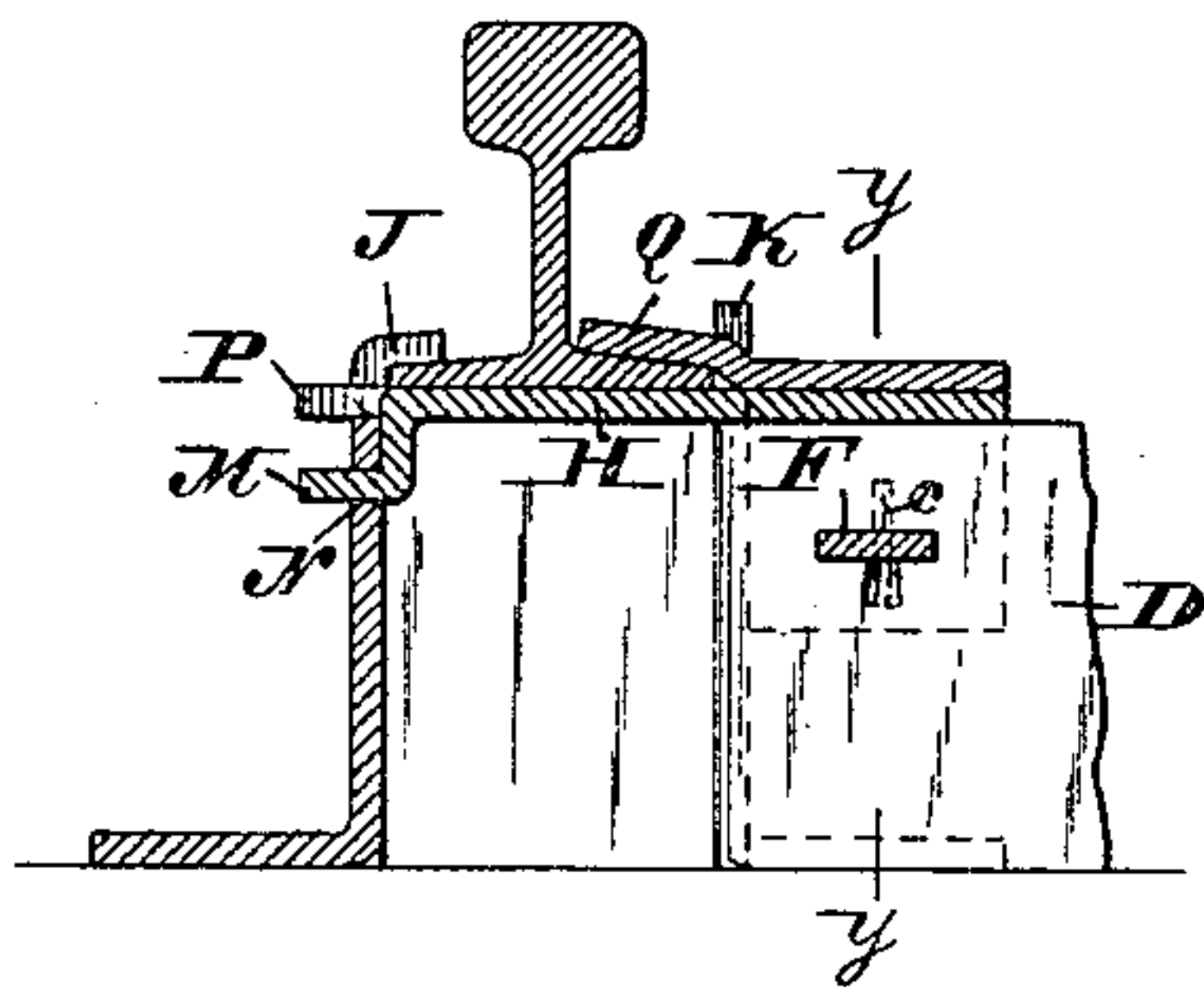


Fig. 5.

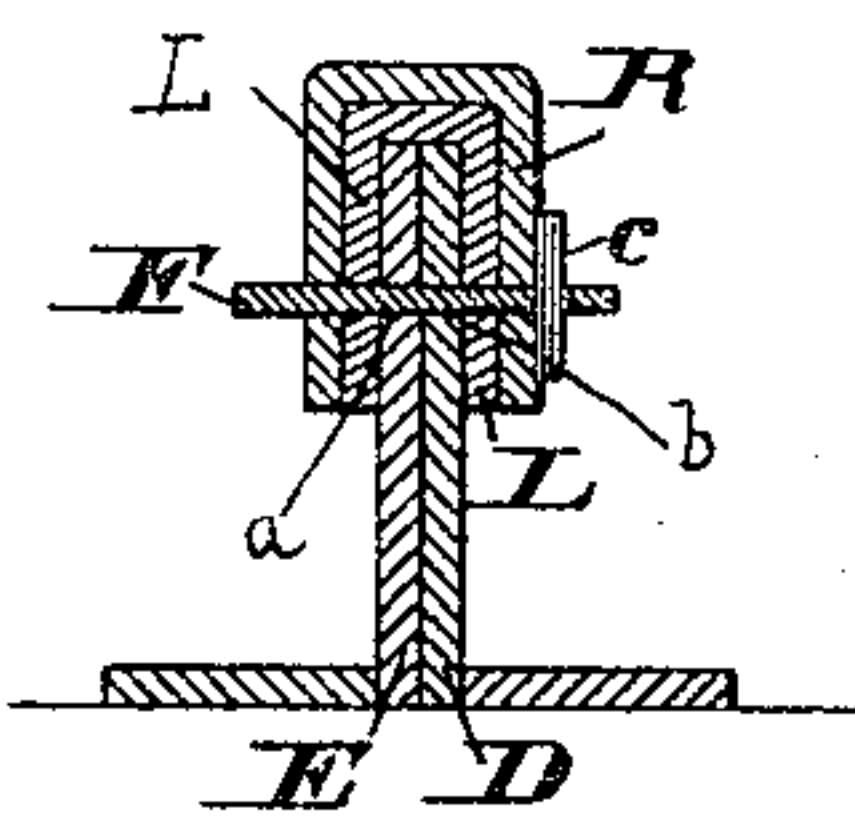
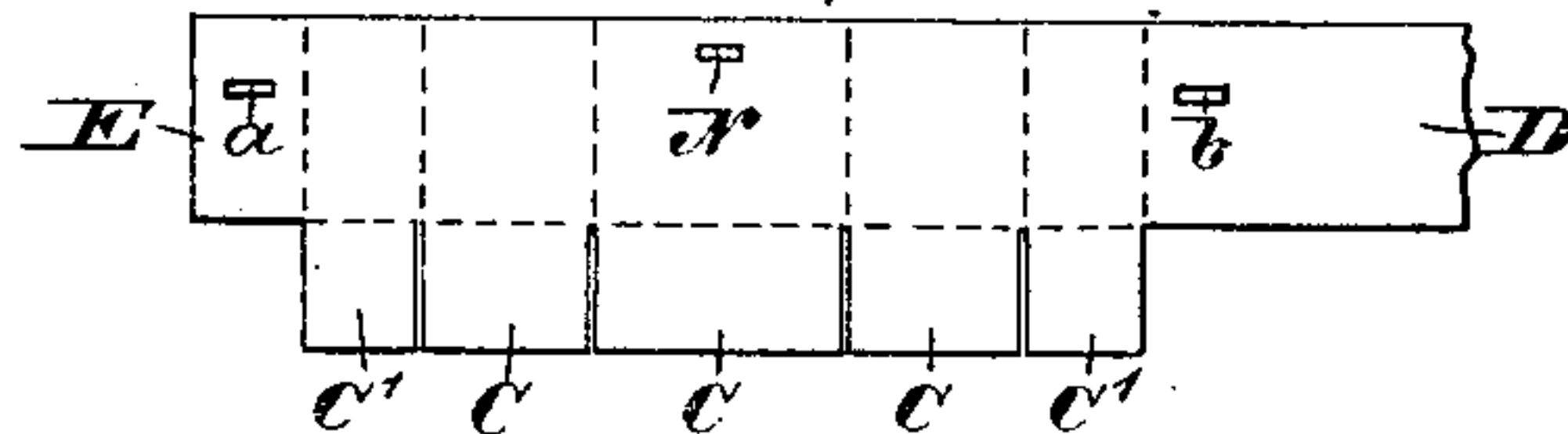


Fig. 6.



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# UNITED STATES PATENT OFFICE.

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## RAILROAD TIE AND RAIL FASTENING.

SPECIFICATION forming part of Letters Patent No. 388,296, dated August 21, 1888.

Application filed December 14, 1887. Serial No. 257,843. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES R. MILLHOUSE, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Railroad Tie and Rail Fastenings, which improvement is fully set forth in the following specification and accompanying drawings.

My invention relates to improvements in ties and rail-fasteners; and it consists first of a novel tie of box form, next a bar or web for connecting each pair of ties, further a chair of novel construction which is supported on the box, means for supporting said chair and for locking the same in position, and finally a cheek-piece for fastening the rail to the chair.

Figure 1 represents a side elevation of a railroad tie and rail fastening embodying my invention. Fig. 2 represents a top or plan view thereof. Fig. 3 represents a top or plan view of the tie with adjacent parts in section. Fig. 4 represents a vertical section in line *xx*, Fig. 2. Fig. 5 represents a section in line *yy*, Fig. 4. Fig. 6 represents a view of a portion of the blank from which the tie is made, on a reduced scale.

Similar letters of reference indicate corresponding parts in the several figures.

Referring to the drawings, A represents a railroad-tie, which is formed of sheet metal bent into the form of a box, B, with horizontally-projecting pieces C C' at the bottom, forming a broad base for firmly supporting the box, said pieces C being secured to the road-bed in any suitable manner.

D represents a bar which connects the two boxes C, the same consisting of a piece of metal which is integral with or secured to said boxes, the end of the piece of metal of which each box is made having a lip, E, which is parallel with said bar D, forming together two thicknesses of metal, as most clearly seen in Figs. 3 and 5.

Fig. 6 shows the blank as cut preparatory to being bent into the form of the box with the base-pieces C, lip E, and bar D. In each lip E and bar D are openings *a b*, respectively, for the passage of a key, F, as will be herein- after more particularly referred to.

G represents a chair for each box, the same being formed of a bottom or bed, H, which

rests on the box, and having at one side curved cheek-pieces J, and at the other side upright cheek-pieces K. The inner side of the chair is bent, forming a fork, L, which embraces the bar D and lip E, and is also perforated for the passage of the key F. The outer side of the chair is formed with a tongue, M, which enters a slot, N, in the outer wall of the box. By these means the chair is firmly connected with the box and guarded from displacement.

In order to prevent the chair from breaking through the box, it is formed with wings P, which overlap the top of the box and provide increased bearing-surfaces for the chair. The rail is placed on the chair, the flange of one side being caught under the cheek-pieces J, and the flange of the other side resting against the cheek-pieces K, thus preventing lateral motions of the rail.

In order to prevent the rail from rising from the chair, I employ a cheek-piece, Q, which embraces the base of the rail opposite to the cheek-pieces J and between the cheek-pieces K, said cheek-piece Q having on its inner side a depending fork, R, which embraces the fork L of the chair G, and is also perforated for the passage of the key F.

It will now be seen that the rail is firmly fastened to the tie, and the two ties are held in proper position and prevented from springing owing to the bar D, said ties and the chair being constructed strong and durable.

The wedge or key F is prevented from displacement by means of the pin or fastening *c* inserted therein; but in lieu of said key I may employ a bolt and nut, as shown in Fig. 3.

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

1. A tie having a box at one end, in combination with a chair resting on said box and having a forked portion secured to said tie, substantially as described.

2. A tie having a box at one end, in combination with a chair resting thereon, and a cheek-piece, the latter having a depending forked portion secured to said tie, substantially as and for the purpose set forth.

3. A wrought-metal tie formed of a single piece of material and having the box B, with base-pieces C C', substantially as and for the purpose set forth.

4. A tie having the box B at one end, in combination with the chair G, having curved cheek-pieces J J on one side and upright pieces K K on the opposite side, and wings P  
5 overlapping the box, substantially as and for the purpose set forth.

5. A tie having the box B at one end, with slot therein, in combination with the chair G, having cheek-pieces J and uprights K, and a  
10 tongue, M, entering said slot N, substantially as and for the purpose set forth.

6. The chair G, having wings P, which overlap the top of the supporting-box, substantially as described.

15 7. The tie D, with the box B and lip E, in combination with the chair G, having fork L embracing said tie and lip E and secured to the same, substantially as and for the purpose set forth.

8. The chair G, having fork L, substantially 20 as described.

9. The tie D, with the box B and lip E, in combination with the chair G, having the fork L, and the cheek-piece Q, with depending fork R, the latter embracing fork L, and  
25 the bar D and lip E, substantially as and for the purpose set forth.

10. In a railroad-tie, a bar connecting opposite ties, in combination with a chair having a fork which embraces said bar, and a  
30 cheek-piece having a fork which embraces the fork of the chair, substantially as described.

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