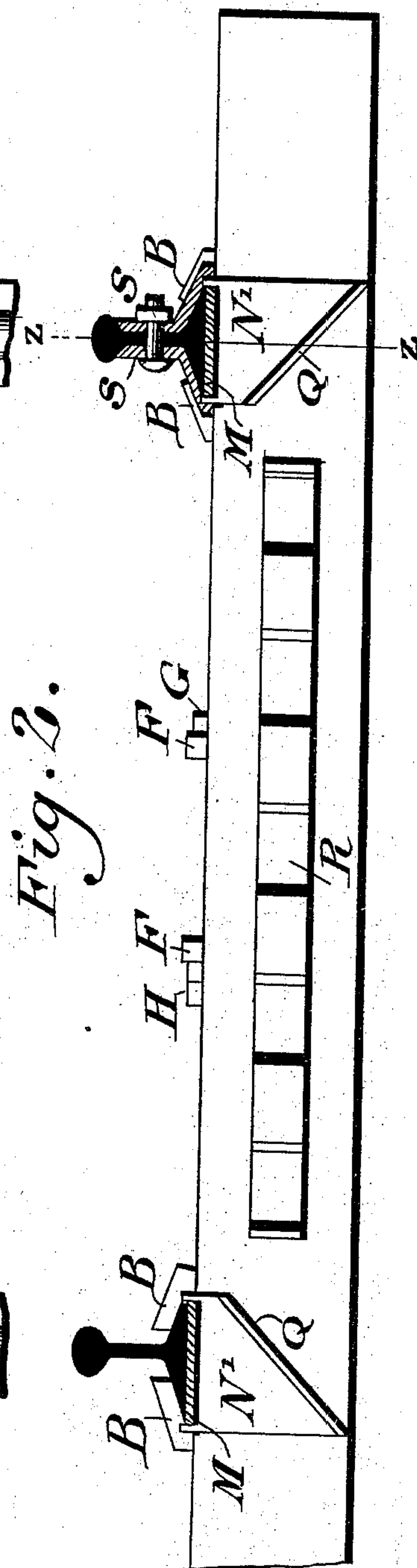
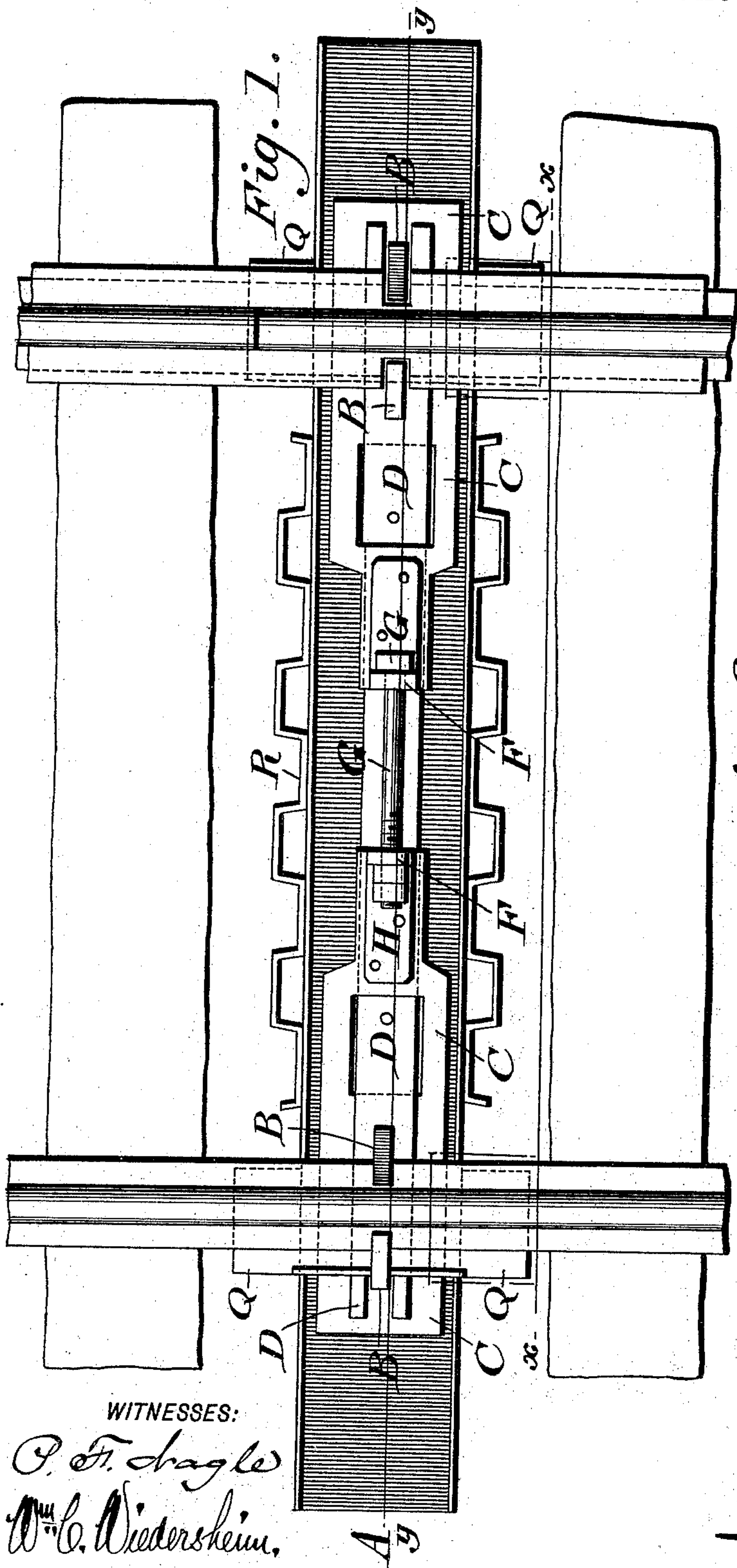


H. B. ROWLAND.
RAILWAY TIE AND FASTENING.

No. 505,484.

Patented Sept. 26, 1893.



(No Model.)

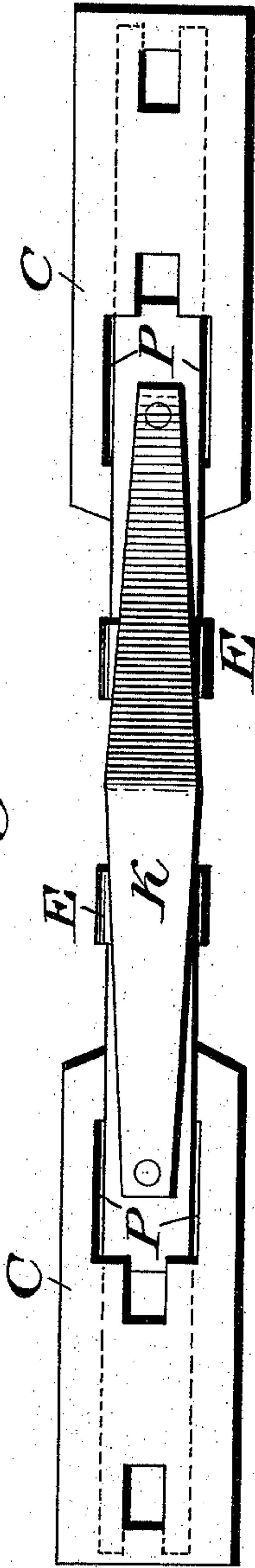
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Fig. 4.



WITNESSES:

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Fig. 3.

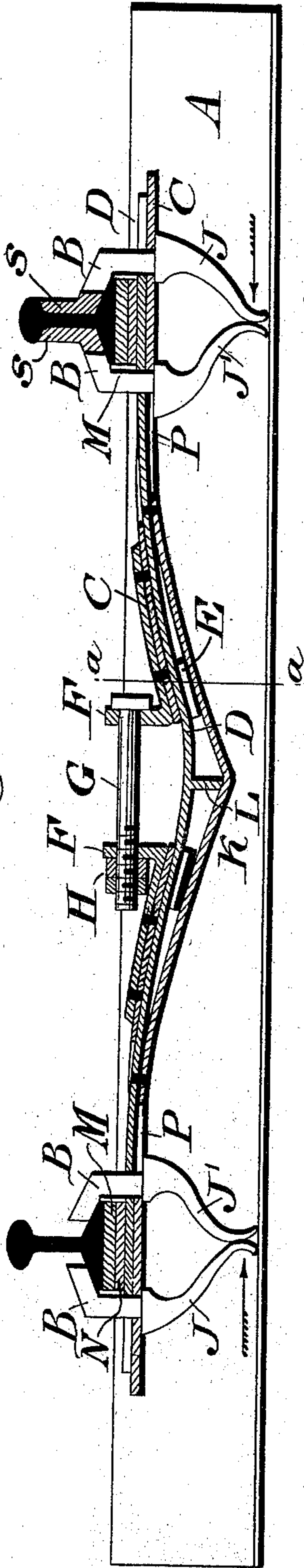


Fig. 6.

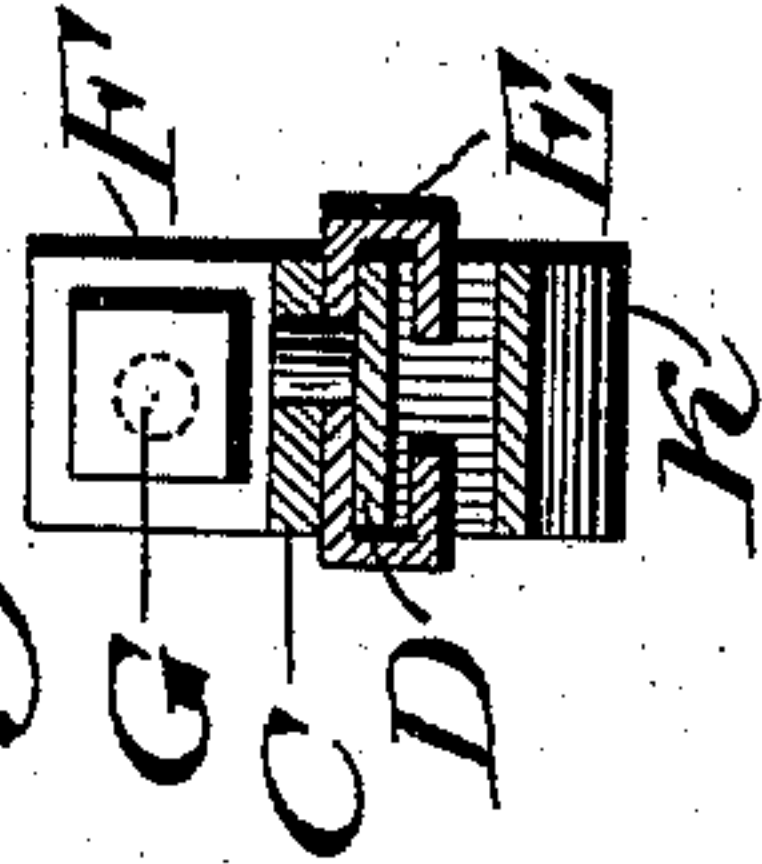
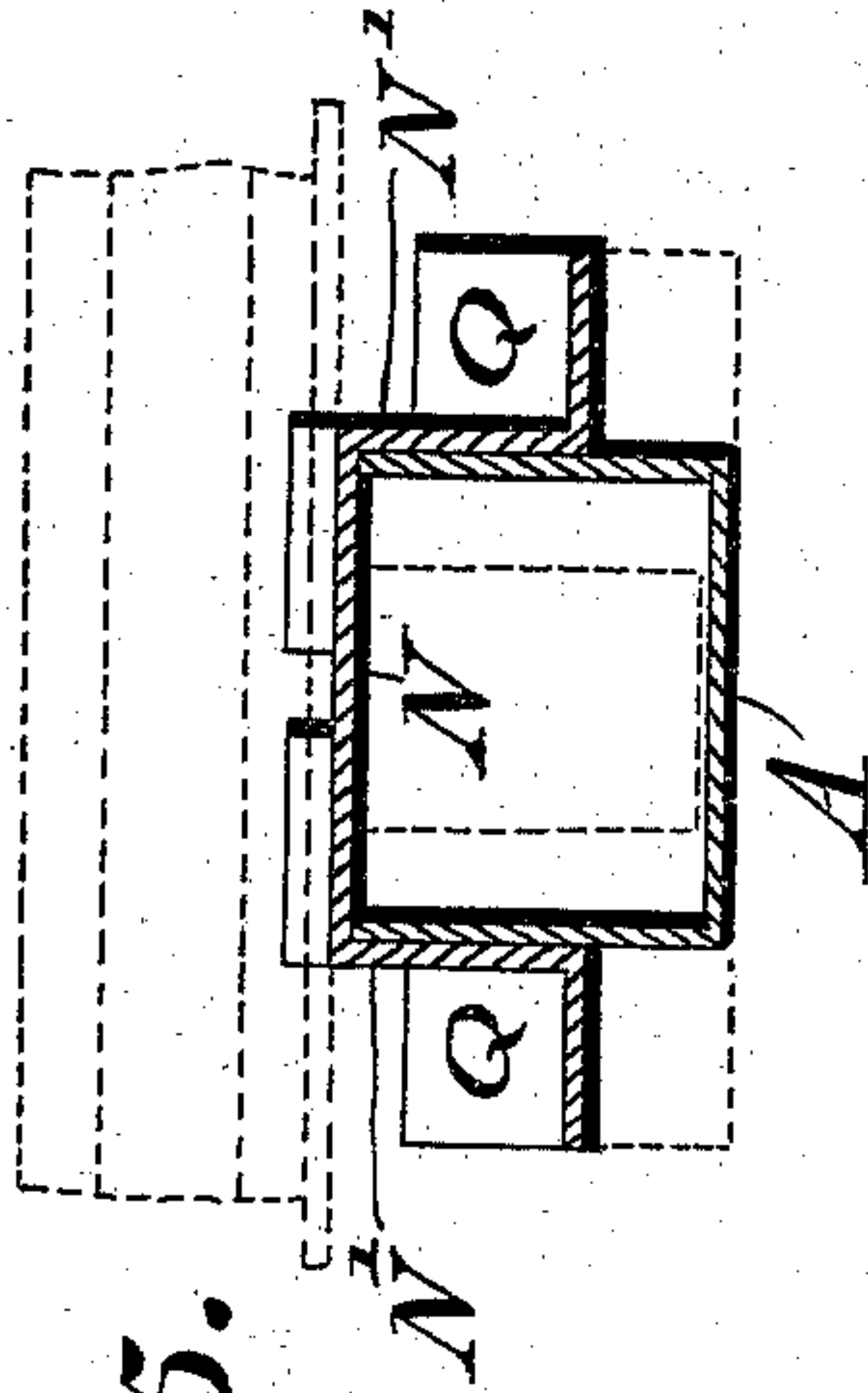


Fig. 5.



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HORACE B. ROWLAND, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF ONE-THIRD TO JACOB I. BOTHWELL, OF SAME PLACE.

RAILWAY-TIE AND FASTENING.

SPECIFICATION forming part of Letters Patent No. 505,484, dated September 26, 1893.

Application filed June 23, 1892. Serial No. 437,700. (No model.)

To all whom it may concern:

Be it known that I, HORACE B. ROWLAND, 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 Railway-Ties and Fastenings, which improvement is fully set forth in the following specification and accompanying drawings.

My invention consists of improvements in railway ties and fastenings, embodying novel means for the clamping of the rails; also of novel means for strengthening the plates with which the clamps or cheek pieces are connected, and furthermore, of means for wedging the tie and interlocking the same with the ballast.

Figure 1 represents a top or plan view of railway ties and fastenings embodying my invention. Fig. 2 represents a partial side elevation and partial vertical section thereof, on line *x, x*, Fig. 1. Fig. 3 represents a transverse vertical section on line *y, y*, Fig. 1. Fig. 4 represents a bottom plan view thereof. Figs. 5 and 6 represent sections respectively on lines *z, z*, Fig. 2, and *a, a*, Fig. 3.

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

Referring to the drawings: A designates a hollow or channeled cross tie, which is preferably made of metal and open at top.

B designates cheek pieces or clamps on opposite sides of the rails, the same passing through slots in plates C and D, which extend in transverse direction, or from rail to rail, the plates C being movable and the plate D being stationary. The outer ends of the plate D are above the plates C, and the inner portions are under the inner ends of the plates C, and said ends of the plates C have firmly secured to them the slides E, which freely embrace the contiguous portions of the plate D and move thereon. Rising from and secured to the inner ends of the plates C are ears F, to which is fitted the bolt G which is provided with a nut H for evident purposes. Depending from the clamps B are shoes J, J', which converge so that their lower ends are in contact, as plainly shown in Fig. 3. To the under side of a portion of the plate

D are secured the ends of the plate K, which is centrally depressed from the center of said plate D, and held separated therefrom by the vertical post L, thus providing a truss for the plate D and forming a braced and consequently a strong structure for sustaining the weight superimposed on said plate D. The rails rest on pieces M, of wood or other suitable material, forming cushions for the same, said pieces being supported on beds N, which are placed on the tops of the tie, and have depending sides N', which are riveted or otherwise firmly secured to the sides of the tie, thus bracing the latter and preventing spreading of the sides thereof.

The operation is as follows: When the parts are placed in position, the bolt G is tightened, whereby the ears F, and consequently the plates C and outer clamps B are drawn downwardly or toward each other, said outer clamps thus being tightened against the rails. As the inner clamps B have their lower portions occupying the slots P in said plates C, they are not moved by the latter, but as the shoes J are carried by the outer clamps B, their lower ends bear against the lower ends of the shoes J' of the inner clamps B, whereby the latter clamps turn outwardly on the plates C as fulcras, and are thereby tightened against the rails, both sides of the latter thus being clamped in a firm and reliable manner. Projecting from the sides N' of the bed N are wings Q which extend obliquely so as to form a wedging action with the ballast, and thus tighten against the same. On the sides of the tie are strips R which are crimped to form angular corrugations, thus increasing the width of the tie, and providing means for causing the interlocking of the ballast, owing to said ballast entering between the corrugations and tie. At the right hand of Figs. 2 and 3, I show fish plates S, interposed between the cheek pieces and rail, without however, producing different results from those stated.

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

1. A hollow tie, movable and stationary plates, the stationary plate having its outer

ends above the outer ends of the movable plates, said parts being combined substantially as described.

2. Movable plates, a stationary plate, and slides secured to said movable plates, said parts being combined substantially as described.

3. A stationary plate and a movable plate guided thereon, and means for operating the movable plate in combination with cheek pieces for clamping the rail, one of said cheek pieces being engaged by the movable plate and fulcrumed on the other cheek piece, whereby both cheek pieces may be moved upon the rail, substantially as described.

4. Stationary and movable plates, and a slide connected with the movable plate and freely engaging the stationary plate, in combination with cheek pieces which are supported on the stationary plate and provided with depending portions which fulcrum on each other, one of the cheek pieces being engaged by the movable plate, said parts being combined substantially as described.

5. A railway tie having a plate for supporting the cheek pieces of the rail provided with an additional plate, and a post forming a truss for the first named plate, substantially as described.

6. A railway tie formed with an open top, a bed on the top of the tie having depending sides secured to the sides of the said tie, said depending sides having obliquely extending wings, said parts being combined substantially as described.

7. A railway tie having on the sides thereof projecting obliquely arranged wings Q, substantially as described.

8. A railway tie having a bed for the rail supported on the tie, depending side pieces connected with the sides of the tie, and wings projecting outwardly from said side pieces, substantially as described.

HORACE B. ROWLAND.

Witnesses:

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