(No Model.)

F. F. MAIN.

RAIL FASTENER AND CHAIR FOR THE SAME.

No. 458,475. Patented Aug. 25, 1891.

Fig 1

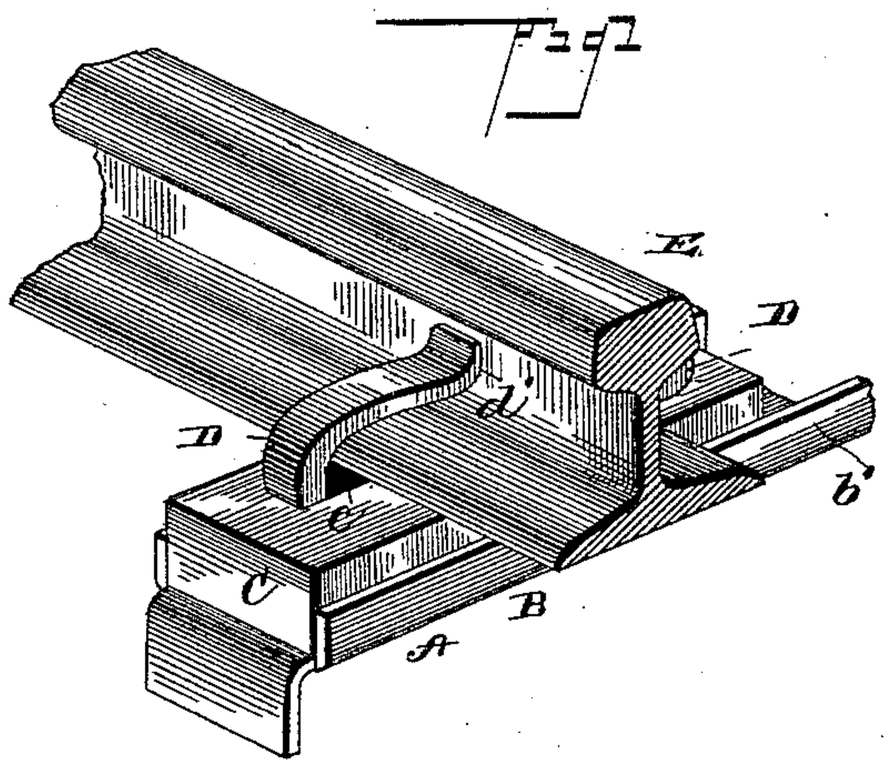


Fig 2

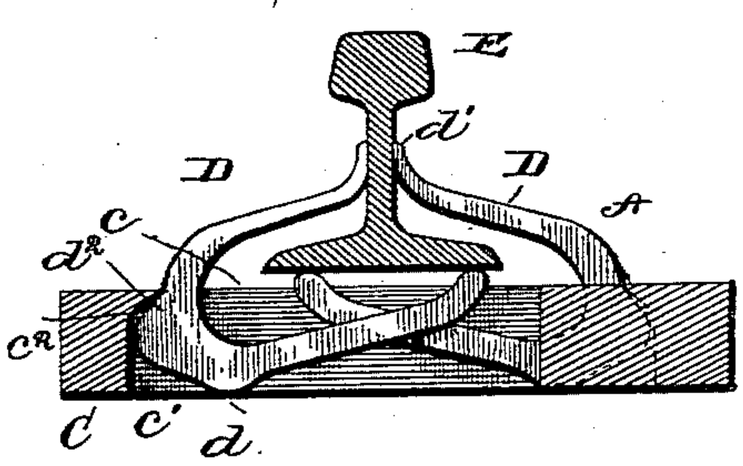


Fig 3

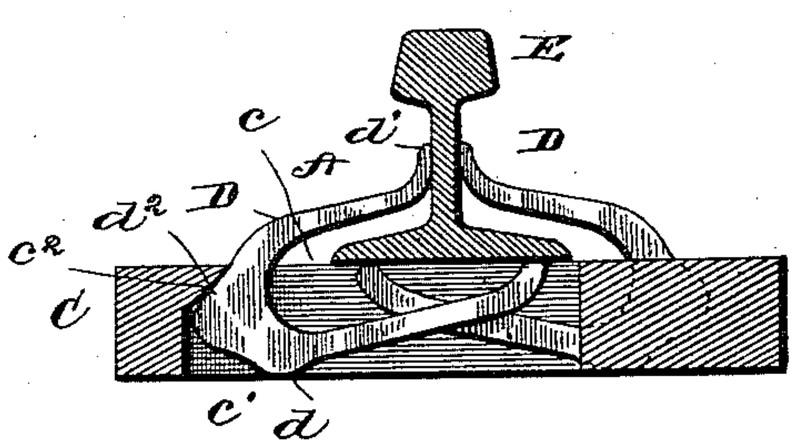
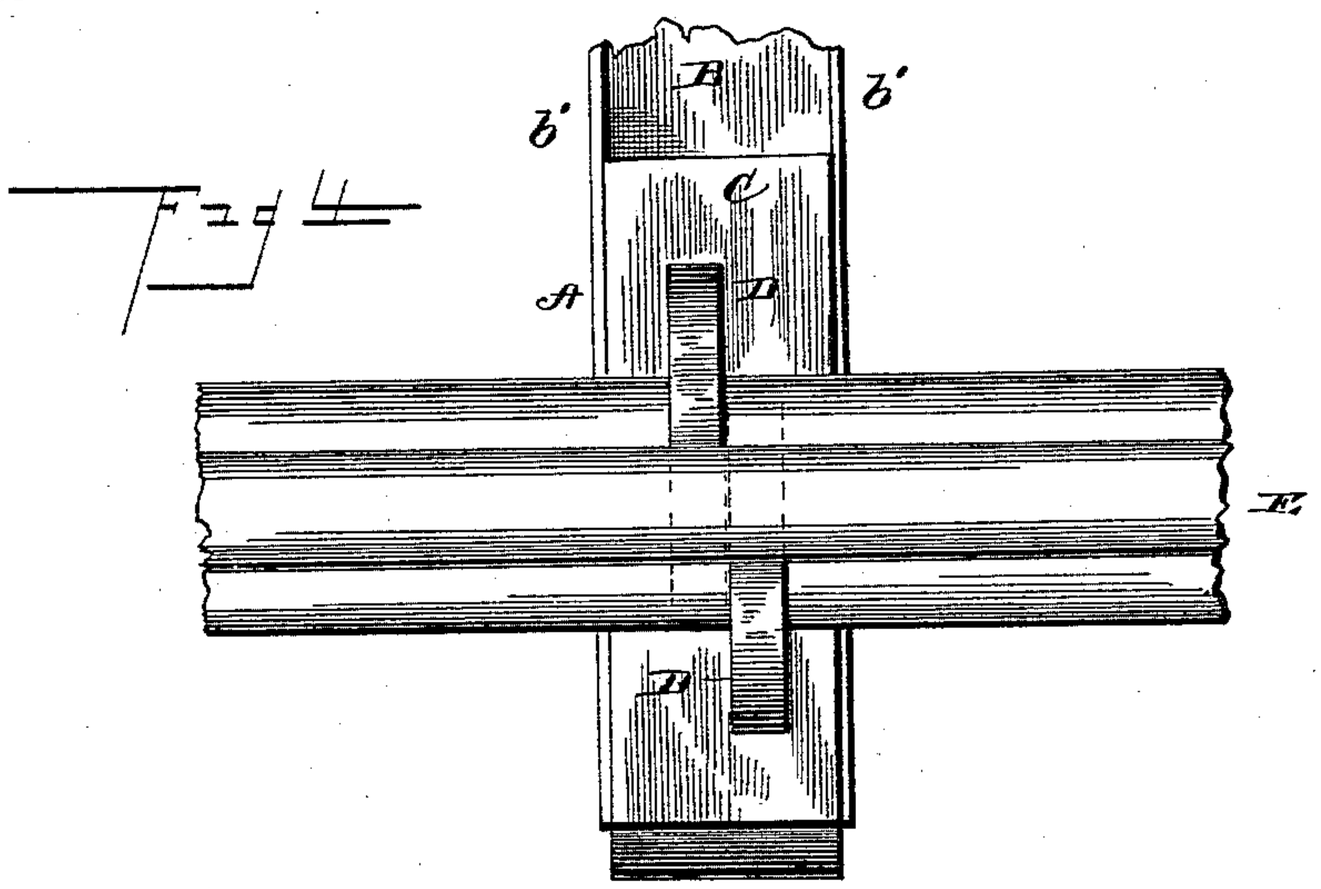


Fig 4



Witnesses
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Wm. J. Littell,

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By his Attorney
J. R. Littell

UNITED STATES PATENT OFFICE.

FRED F. MAIN, OF SOUTH NEW LYME, OHIO.

RAIL-FASTENER AND CHAIR FOR THE SAME.

SPECIFICATION forming part of Letters Patent No. 458,475, dated August 25, 1891.

Application filed July 7, 1890. Serial No. 357,960. (No model.)

To all whom it may concern:

Be it known that I, FRED F. MAIN, a citizen of the United States, residing at South New Lyme, in the county of Ashtabula and State of Ohio, have invented certain new and useful Improvements in Rail-Fasteners and Chairs for Same; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improved rail-fastener and chair for the same; and it has for its object to provide a fastening which loosely holds the rail when there is little or no weight upon the same, but tightly binds against and holds the rail the moment any considerable weight is placed upon it.

With this object in view my invention consists in the peculiar construction of several parts and their novel combination, such as shown in the accompanying drawings and more fully explained hereinafter.

In the drawings forming a part of this specification, and in which the same letters of reference indicate the same or similar parts, Figure 1 is a perspective view of my improvements as applied. Fig. 2 is a vertical longitudinal section of a fastener and chair, showing the position of the parts when the rail is not loaded. Fig. 3 is a similar view showing the position of the parts when the rail is loaded. Fig. 4 is a top plan view.

Referring to the drawings, A indicates my improved metallic railroad-tie, the ends of which are bent down to rest upon the ground and support the tie. If desired, ballast of any kind may be used. This prevents the tie slipping endwise.

The edges of the plate B are turned up, as at b', thus forming a trough or guideway in which the chair or bearing-frame C can be quickly adjusted without a great deal of care. The chairs C are secured to the plate B near the ends of the tie, and are adapted to receive the fastening-dogs D, whereby the rail is secured. The chair or frame is made hollow, and at its top is provided with an opening c, in which are placed the fastening-dogs.

The dogs D are essentially U-shaped, the lower arm being somewhat longer, and is adapted to enter the opening c, and have its end enter a recess c' in the frame beneath the surface of the same. The bend of the dogs is provided with a lug d, upon which the said dogs rock, and the opening c contiguous to said bend is beveled, as at c^2, and the dogs as at d^2, the purposes of which will appear farther on. The upper arm of the dog is slightly spread, as at d', whereby it is adapted to fit snugly upon the web of the rail between the base and head. The dogs are interchangeable, except where they bear upon fish-plates, as in that case the upper arms are shortened to compensate for the thickness of the plates. The opposite ends of the frame C are so constructed that the recesses c' and beveled parts c^2 are opposite one another. E indicates an ordinary rail.

In operation one of the dogs is placed in position by inserting the lower arm in the opening c and extending it into the recess c', this dog resting on the lug d and the beveled part d^2 beneath the part c^2. The rail E is now placed upon the upwardly-projecting lower arm and adjusted to the proper position. The other dog is now placed in position the same as the first dog, the lower arms resting side by side and the upper arms bearing upon opposite sides of the web at points slightly separated from each other. When there is no load upon the rails, they are supported upon the lower arms, and the upper arms do not bind tightly upon the web; but the moment a load is placed upon the rail it presses the lower arms down and throws the upper arms tightly against the web; and the heavier the load the tighter the hold. The recess c' and beveled parts c^2 and d^2 prevent the rail and dogs being lifted out, as this can only be done by a specially-constructed tool.

From the above it will be seen that spikes, bolts, nuts, &c., are entirely dispensed with, and consequently their defects; but all their good effects are to be found in my device, only better.

Having thus described my invention, what I claim is—

The combination, with the rail, of a chair disposed under the same, made hollow and formed with openings in the top thereof out of aligment and on opposite sides of the rail-

seat, and dogs with heels to bear against the ends of the chair and having arms in substantially U shape, with upturned ends bearing at different points, respectively, against the flange and the web of the rail, the upper arms passing through the slots in the top of the chair and the under arms crossing and engaging opposite edges of the flange of the rail, said dogs being held against movement by the heels thereof bearing against the ends of the chair, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

FRED F. MAIN.

Witnesses:
J. H. GRISWOLD,
L. E. DICKEY.