(No Model.)

J. M. & S. B. MOODY.

RAILWAY RAIL JOINT OR CHAIR.

No. 388,063. Patented Aug. 21, 1888.

Fig. 1.

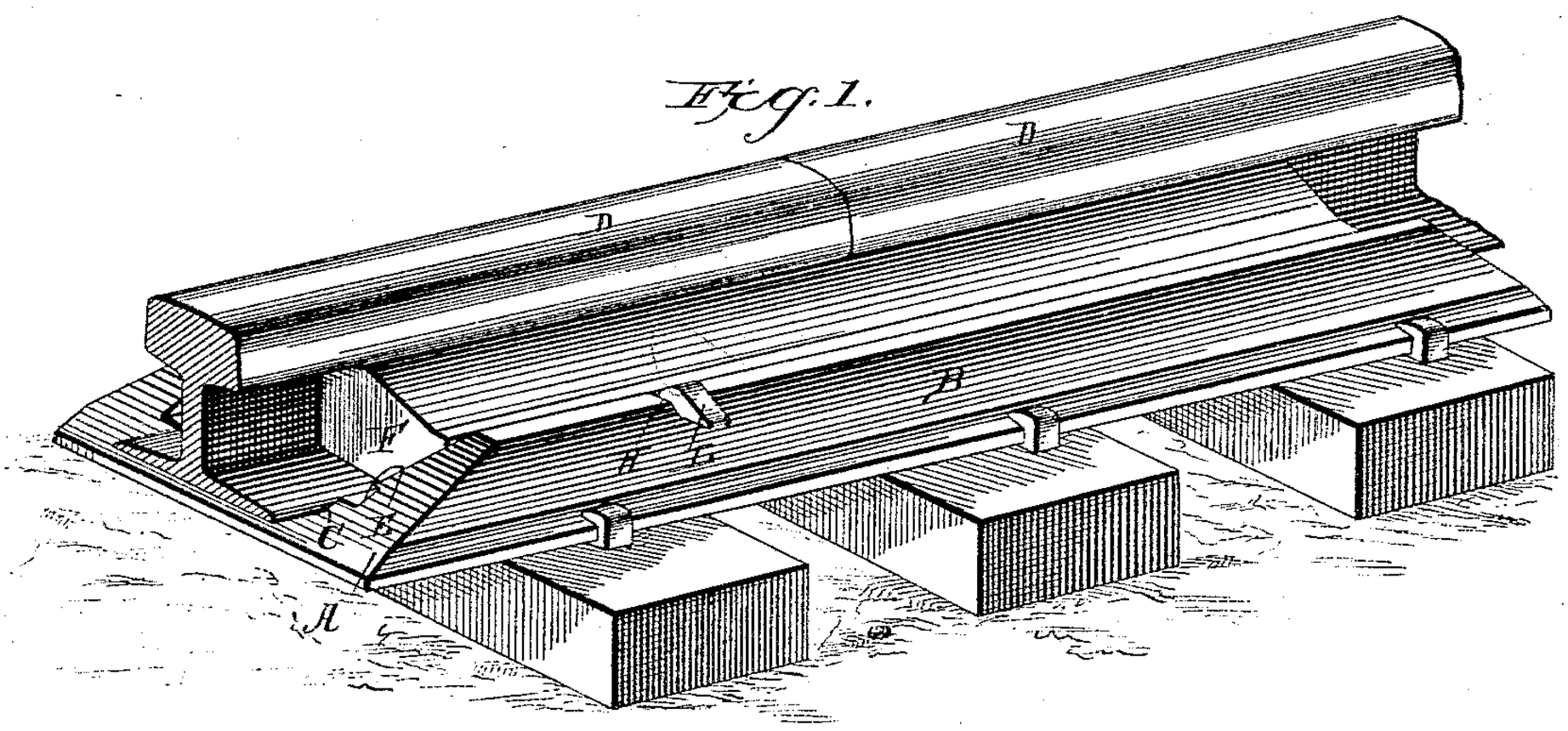


Fig. 2.

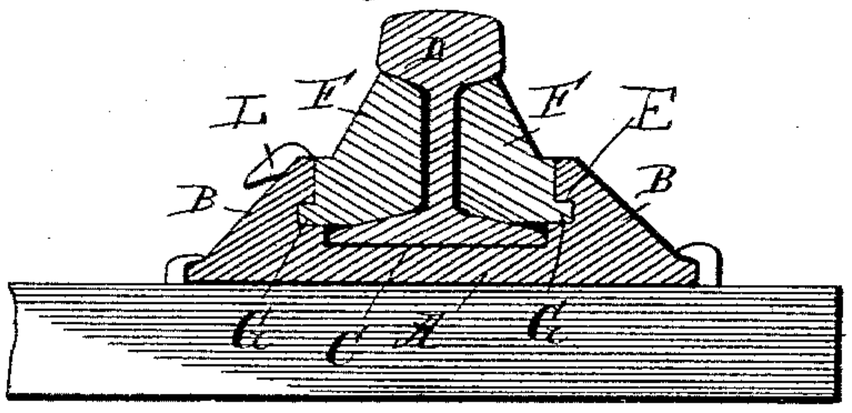


Fig. 3.

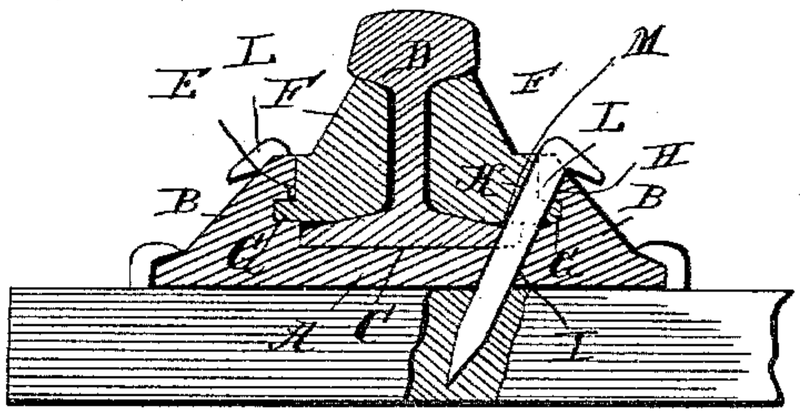


Fig. 4.

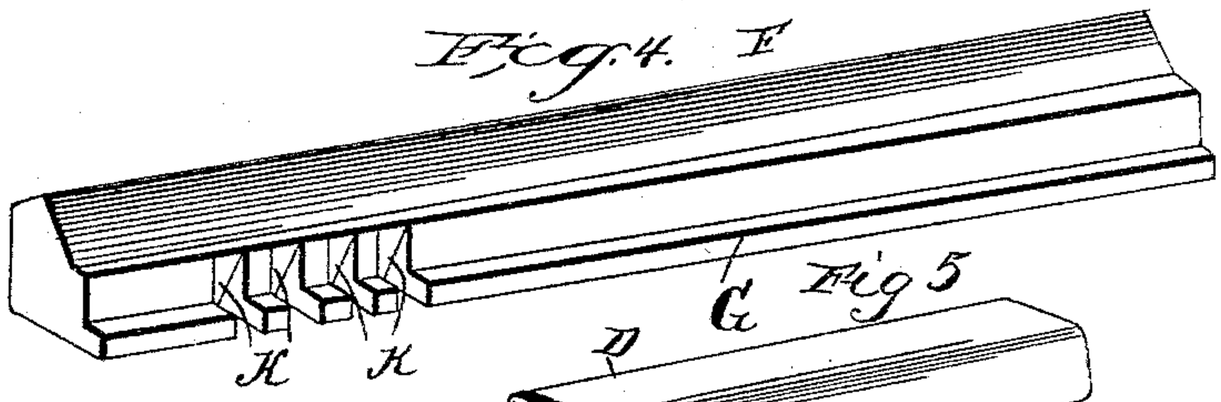
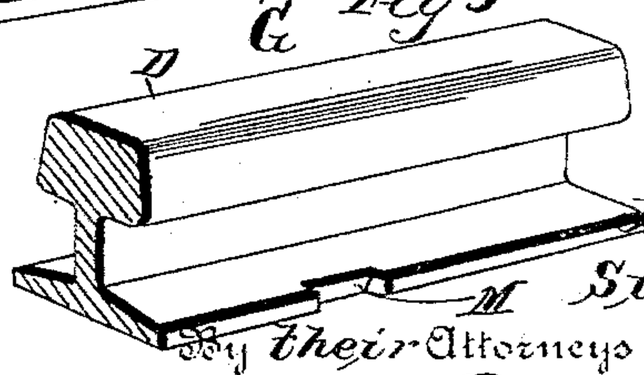


Fig 5



Witnesses.

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UNITED STATES PATENT OFFICE.

JAMES M. MOODY AND SIDNEY B. MOODY, OF HARWICH, MASSACHUSETTS.

RAILWAY-RAIL JOINT OR CHAIR.

SPECIFICATION forming part of Letters Patent No. 388,063, dated August 21, 1888.

Application filed April 28, 1888. Serial No. 272,099. (No model.)

To all whom it may concern:

Be it known that we, JAMES M. MOODY and SIDNEY B. MOODY, citizens of the United States, residing at Harwich, in the county of Barnstable and State of Massachusetts, have invented a new and useful Improvement in a Railway-Rail Joint or Chair, of which the following is a specification.

The object of our invention is to provide a railway-rail joint or chair which is cheap, simple, easy to apply to the rails, and effective, and which will support the inner and outer sides of the rails equally.

A further object of the invention is to provide a joint or chair which will have simple and improved means for preventing the rails from "running" or jarring out of place. In the ordinary practice the rails which are laid on grades are liable to slip longitudinally out of the chairs when the locking devices become worn, and, although means have been heretofore provided to prevent this, it is our object to simplify the construction and reduce the number of parts of which the chair or joint is composed, and at the same time accomplish the same result.

With these objects in view the invention consists in a certain novel construction and arrangement of devices, fully set forth hereinafter in connection with the accompanying drawings, wherein—

Figure 1 is a perspective view of the improved joint or chair applied in the operative position to the joint between two rails. Fig. 2 is a transverse section of the joint or chair. Fig. 3 is a transverse section through one of the notches in the chair and showing the key engaged therein. Fig. 4 is a detail perspective view of one of the wedges detached from the joint or chair. Fig. 5 is a detail perspective view of a portion of the rail to show the notch therein.

Referring by letter to the drawings, the chair A is provided with the side flanges, B B, having vertical inner sides and inclined outer sides, and the bottom or base plate of the chair is provided with the depression or groove C, of a depth equal to the thickness of the flanges on the bottom of the rail. The rails D are arranged in the center of the chair, with their bases or flanges resting in the said groove or depression and their webs passing up between the flanges B B at equal distances from both.

Longitudinal rectangular grooves E E are formed in the flanges of the chair, with their lower sides flush with the upper sides of the base or flanges of the rails; and F F represent wedges, which are arranged in the chair between the vertical sides of the flanges B and the web of the rail, and they are provided with the rectangular tongues G G, which engage and slide in the grooves E, and thus prevent the wedges from slipping upward. The flanges B B are longitudinally tapered, respectively in opposite directions, and the wedges F are driven into the chair, respectively, from opposite ends, so that the inner sides of the wedges are parallel at all times and the pressure upon the opposite sides of the rail is even throughout the length of the chair. The inner or opposing sides of the wedges are shaped to fit the contour of the rails, so that as they are driven into the chair their upper edges bear firmly against the under side of the tread of the rail and support the same.

Inwardly-inclined grooves H are formed in the inner sides of the flanges B B at their thicker ends, the upper ends of the said grooves being of a sufficient size (in cross-section) to receive an ordinary rail-spike, while their lower ends are much shallower, (owing to the fact that the inner sides of the flanges are vertical and the grooves are inclined,) and apertures I I are formed in the bottom or base of the chair respectively in alignment with the said grooves. The outer sides of the wedges are provided with a series of grooves, K, either of which may be aligned with the grooves in the flanges B. The grooves K are inclined inward at the same angle as the grooves in the flanges B, and they are so arranged that their upper ends are not visible on the upper sides of the wedges—that is, the inner sides of the grooves K are flush with the outer sides of the wedges—thereby presenting an unbroken upper edge to the inner side of the flanges B. Therefore the grooves in the wedges are only visible as they register successively with the grooves in the flanges B, and when they register, a key, L, may be inserted therein, which will pass down through the aperture I in the bottom or base of the chair. It will be seen

that the said key is simply an ordinary rail-spike.

The base or flange of the rail is provided near the end with a slot or extended notch, M, which is adapted (when the rail is in the chair) to be aligned with the registering grooves and the aperture I, so that the key L further engages the said slot or notch, and thus locks the end of the rail in the chair.

When the keys are driven into place, their inclination causes the wedges to be clamped tightly up against the under side of the tread of the rail, and when, by reason of continued travel, the parts of the chair become slightly loose, the said key is drawn, the wedge is driven until another groove therein is aligned with the groove in the flange of the chair, and the key is replaced.

The objects in inclining the grooves for the keys and arranging them as described will now be seen. First, the action of driving them in place clamps the wedges more firmly against the rail, and, further, there are no apertures or openings in the upper side of the chair to receive water and dust, which might interfere with the adjustment of the chair.

This chair possesses the advantage before referred to of pressing evenly upon both sides of the rail for a considerable distance upon both sides of the joint, and the said pressure is not given by the edge of a flange bearing against the under side of the tread, but is given by the side of a wedge whose adjacent side accurately fits the side of the rail.

The improved chair possesses a further advantage in that the rail is placed in the center thereof and the wedges are applied on both sides, and therefore in laying the track the rails are dropped vertically into the chairs. It is at times very inconvenient to turn either the rail or the chair on its side to engage one flange of the rail in the chair, and it is more difficult under these circumstances to secure an accurate alignment of the rails.

Further, when chairs are employed having the wedge or wedges arranged on one side of the rail only and a flange opposing the said wedge or wedges, against which the rail is clamped, the said flange springs outward as the wedge or wedges are tightened, and therefore if the chair is secured to the sleeper of the road before the rail is clamped therein it is impossible to avoid throwing the rail slightly out of alignment. If the parts of the clamp become loose and it is desired to tighten them, either the rail will be forced still farther out of alignment or the chair must be moved. All this difficulty is obviated in the improved chair, in which the clamping-wedges are arranged on both sides of the rail, and even though the flanges may spring outward they will spring out equally, and even if they do not spring out exactly equally the difference in flexibility may be compensated by driving one of the wedges slightly tighter than the other.

Further, the keys in the improved chair which are employed to lock the clamping-wedges in place in the chair also lock the rails in the chair and prevent them from running, thus obviating the necessity of providing additional or independent means. It will be understood that the object in extending the notches which are formed in the base or flange of the rail is to allow it to expand and contract freely with the changes of temperature.

Having thus described our invention, what we claim, and desire to secure by Letters Patent of the United States, is—

1. The combination, with a railway-rail, of the chair provided with tapered side flanges, B B, having inclined grooves H H in their inner sides, the single wedge F, arranged between the rail and each side flange and provided with a series of inclined grooves, K, in their outer sides adapted to register successively with the grooves H, the upper ends of the said grooves being flush at their inner sides with the outer edges of the wedges, whereby the grooves K are invisible except when registering with the grooves H and the keys engaging the registering grooves H and K, substantially as and for the purpose specified.

2. The combination, with the railway-rail, of the chair provided with a depression or groove, C, and the apertures I I, the vertical side flanges, B B, having grooves H therein, the wedges arranged between the rail and the side flanges and having grooves in their outer sides adapted to register with the grooves H, and the railway-spikes arranged in the aligned grooves and apertures I, and engaging notches in the base or flanges of the rail, all substantially as and for the purpose specified.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in presence of two witnesses.

JAMES M. MOODY.
SIDNEY B. MOODY.

Witnesses:
JOSEPH W. RAYMOND.
THOMAS R. ELDRIDGE.