(No Model.)

C. H. HARTMAN.

METALLIC TIE AND SWITCH ROD.

No. 540,981. Patented June 11, 1895.

Fig. 1.

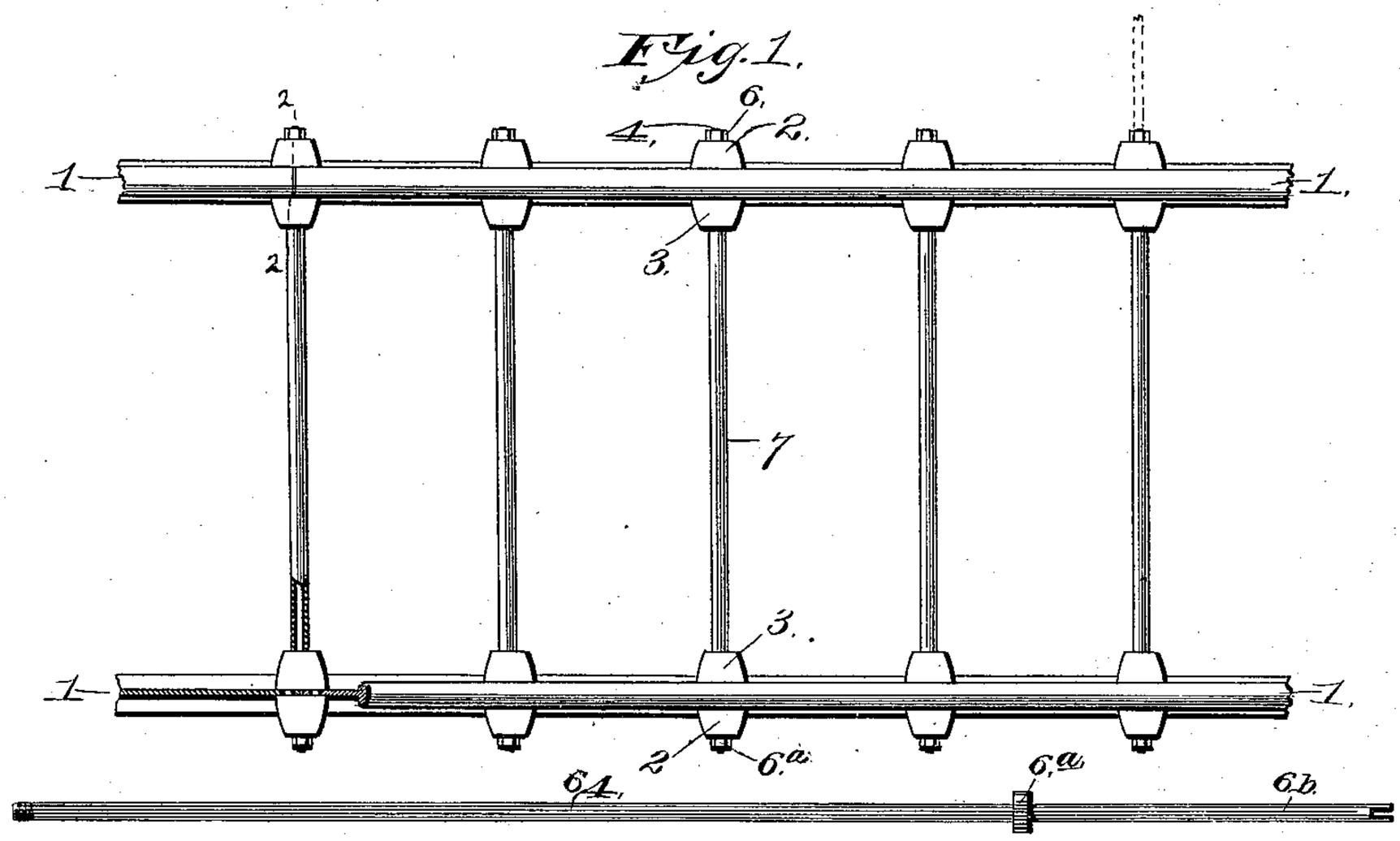


Fig. 2

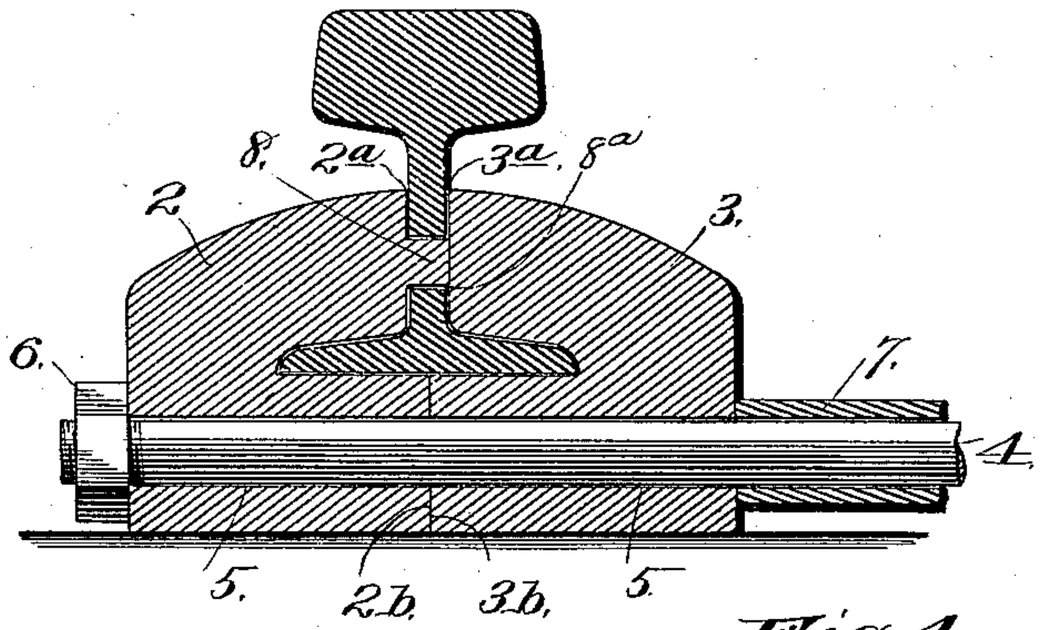


Fig. 5.

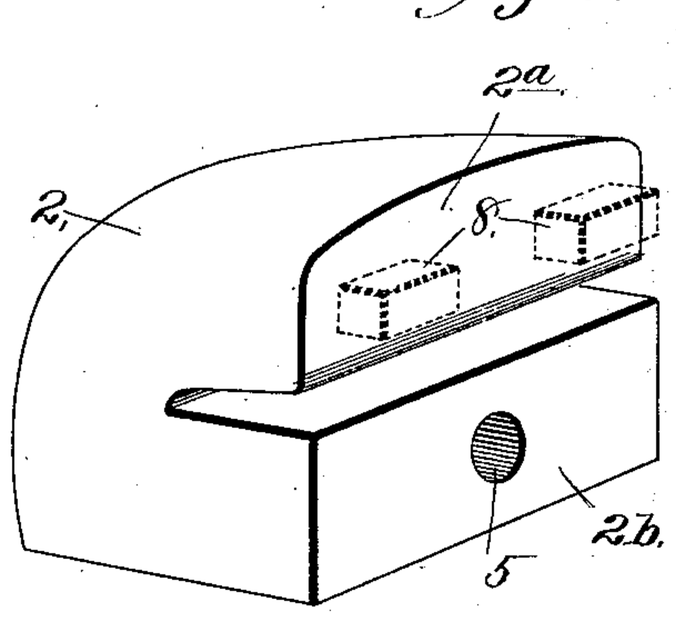
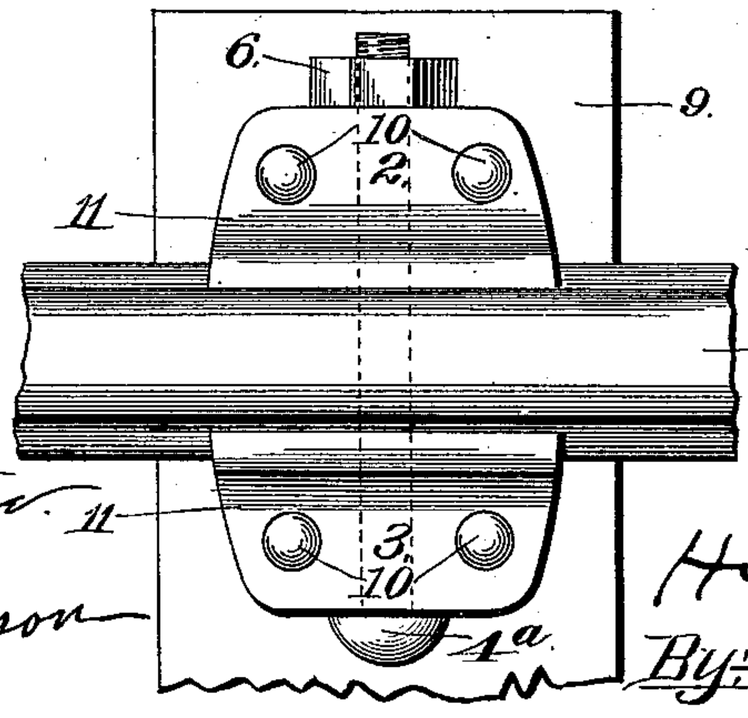


Fig. 3.

Fig. 4.



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UNITED STATES PATENT OFFICE.

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METALLIC TIE AND SWITCH-ROD.

SPECIFICATION forming part of Letters Patent No. 540,981, dated June 11, 1895.

Application filed January 2, 1894. Serial No. 495,312. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. HARTMAN, of Kansas City, Jackson county, Missouri, have invented a Metallic Tie and Switch-Rod, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

My invention relates to mining face-tracks and has for its primary object to produce a portable track of this character wherein the track is prevented from spreading, and the track-rails are prevented from wabbling or cupping. A further object is to provide a track of this character which is simple, strong, durable and inexpensive of construction.

Other objects of the invention will appear in the following description and claims, taken in connection with the accompanying drawings, in which—

Figure 1 is a plan view of a mining face-track constructed in accordance with my invention. Fig. 2 is a vertical transverse sectional view taken on the line 2 2 of Fig. 1. Fig. 3 is a detailed perspective view of one of the blocks forming the tie constructed in accordance with my invention. Fig. 4 is a top plan view showing a portion of a track-rail, the clamping-blocks, and a portion of a wooden tie upon which the clamping-blocks are secured. Fig. 5 is a detailed view of one of the tie-bolts used in the construction of the mining face-track and showing said tie-bolt extended at one end that it may be connected with a switch-operating mechanism.

Before proceeding with a detailed description of the invention, I wish to state that in the portable mining face-tracks at present used, great annoyance and difficulty is occasioned, by the slipping of the cross-ties from position. Ofttimes a number of the cross-ties, which were stationed originally at a certain distance apart, will be found bunched or one against the other; thus affording practically no support for the track-rails, and leaving them free to separate or move farther apart immediately they feel the weight of the car. My invention is designed to obviate this difficulty by providing a cross-tie, which it will be impossible to accidentally or unintentionally move from position, and which at the same time will afford a brace or purchase for the men propelling the car.

In the drawings, 1 designates the track-rails of a mining face-track.

2 and 3 designate clamping-blocks which are oppositely disposed and fitted against the outer and inner sides respectively, of the said track-rails. The blocks 2 and the blocks 3, are each provided with the squared faces 2^a, 2^b, and 3^a and 3^b, respectively; the faces 2^a, and 3^a, bearing against each other below the flange or foot of the rail, as clearly shown in Fig. 2. The blocks are also oppositely recessed to form a space for the reception of the flanges or foot of the rail.

The blocks 2, and 3, of each rail are provided with aligned holes or apertures 5 through which the transversely arranged tie-bolt 4, extends. The ends of the tie-bolt 4, are screw-threaded and are engaged by clamping-nuts 6, which bear against the outer faces of the blocks 2, and thus prevent the track-rails moving outwardly or apart.

In order to prevent the inward movement or displacement of the track-rails a gas-pipe 7, is fitted upon the tie-bolt 4, and bears at its opposite ends against the inner or adjacent faces of the blocks 3.

From the foregoing it will be seen, by screwing the nuts 6, tightly against the outer sides of the blocks 2, that the blocks 2 and 3 will be clamped tightly and immovably against their respective rails, so that it will be impossible for the mining-ties, consisting of the blocks, the bolt, the gas-pipe and the nuts, to slip from their original position longitudinally upon the track-rails.

The construction just described, relates particularly to cross-ties connecting the track-rails at a point inward of their ends. When connecting the ends of the track-rails, I preferably employ a block 2, of a slightly different construction. In this instance, the face 2^a, of the block is provided near each side margin, with a lug or projection 8, and these lugs or projections 8, are passed through slots or elongated openings, 8^a; said slots or elongated openings being formed, one in the end of each track rail. By this construction, it will be apparent that the lugs 8, bearing against the adjacent or opposing face of the companion block 3, will prevent the rails being clamped rigidly therebetween, and that by providing the rails with slots or elongated openings the rail is left

free for expansion or contraction, but is at the same time held from lateral displacement. If desired these lugs, 8, and their respective openings in the ends of the track-rails may be dispensed with entirely, or they may be used in place of the blocks which are not provided with said lugs; the web of each track-rail, in this instance, being slotted at various points to receive said lugs. The cross-ties, thus constructed, by dispensing with one of the nuts 6, and substituting therefor the integral collar or enlargement 6^a, and extending the tie longitudinally outward from the said collar, as shown at 6^b, may be used as a switch-tie; the outer end of the extension 6^b being connected operatively to the switch operating mechanism in the usual manner. When this switch-tie is used, the collar 6^a, will bear against the outer side of the adjacent block 2, and the extension will project outwardly of said blocks, as shown clearly at dotted line in Fig. 1.

In Fig. 4, I show a slightly modified form of construction. In this instance the cross-tie connecting the rails forming the track, is dispensed with, and a short bolt 4^a, extends through the clamping-blocks 2 and 3 as shown, to secure them upon the rail. This construction is preferably used in street rail-way-tracks and others, where the traffic is not heavy or severe. When used to secure street-car tracks in position the upper side of the blocks 2 and 3 are preferably recessed as shown at 11, so as to form a flat surface for the heads of the spikes 10, to rest upon; these spikes, being driven through openings in said blocks, and into the wooden tie 9, upon which said blocks rest. These wooden ties may extend transversely or longitudinally of the road-bed.

From the foregoing, it will be apparent that I have produced a tie for street-car rails which secure them firmly and immovably in position, and which is strong and inexpensive of construction, and that I have produced a cross-tie for mining face-tracks which will be impossible to accidentally dislocate. Furthermore, it will be seen that I have produced a cross-tie, which will be found practical and of great value in connecting railroad track-rails rigidly together at the point where the track turns or curves and where the tendency to separate is greatest.

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

In a cross-tie for mining face-tracks, the combination with the track-rails, a tie-bolt extending transversely of the track, a gas-pipe mounted upon said tie-bolt, and nuts engaging the ends of said tie-bolt, of a pair of clamping-blocks upon the tie-bolt, and interposed between the inner side of the track-rails and the ends of said gas-pipe, and a second pair of clamping-blocks upon said tie-bolt and interposed between the said nuts and the outer side of said track-rails, and provided with lugs which project loosely through slots in the track-rails and bear against the opposing faces of the first-mentioned blocks, substantially as set forth.

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

CHARLES H. HARTMAN.

Witnesses:
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