

No. 747,670.

PATENTED DEC. 22, 1903.

J. H. YOUNG.

RAIL JOINT.

APPLICATION FILED SEPT. 22, 1902. RENEWED MAY 19, 1903.

NO MODEL.

FIG. 1.

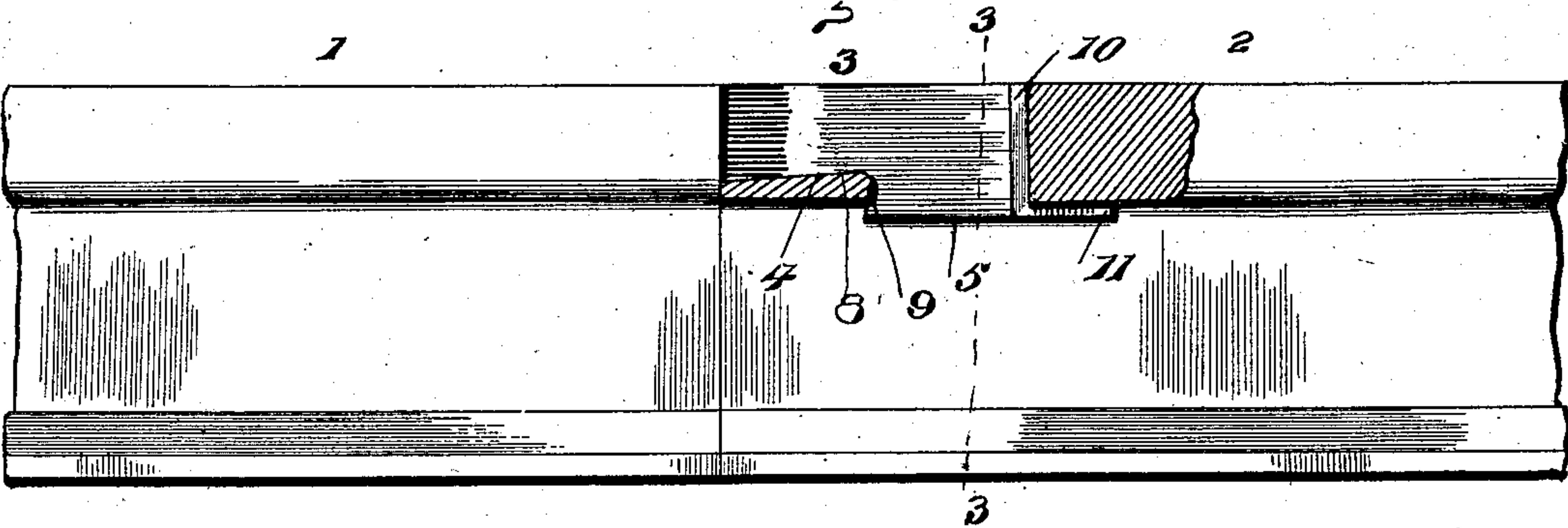


FIG. 2.

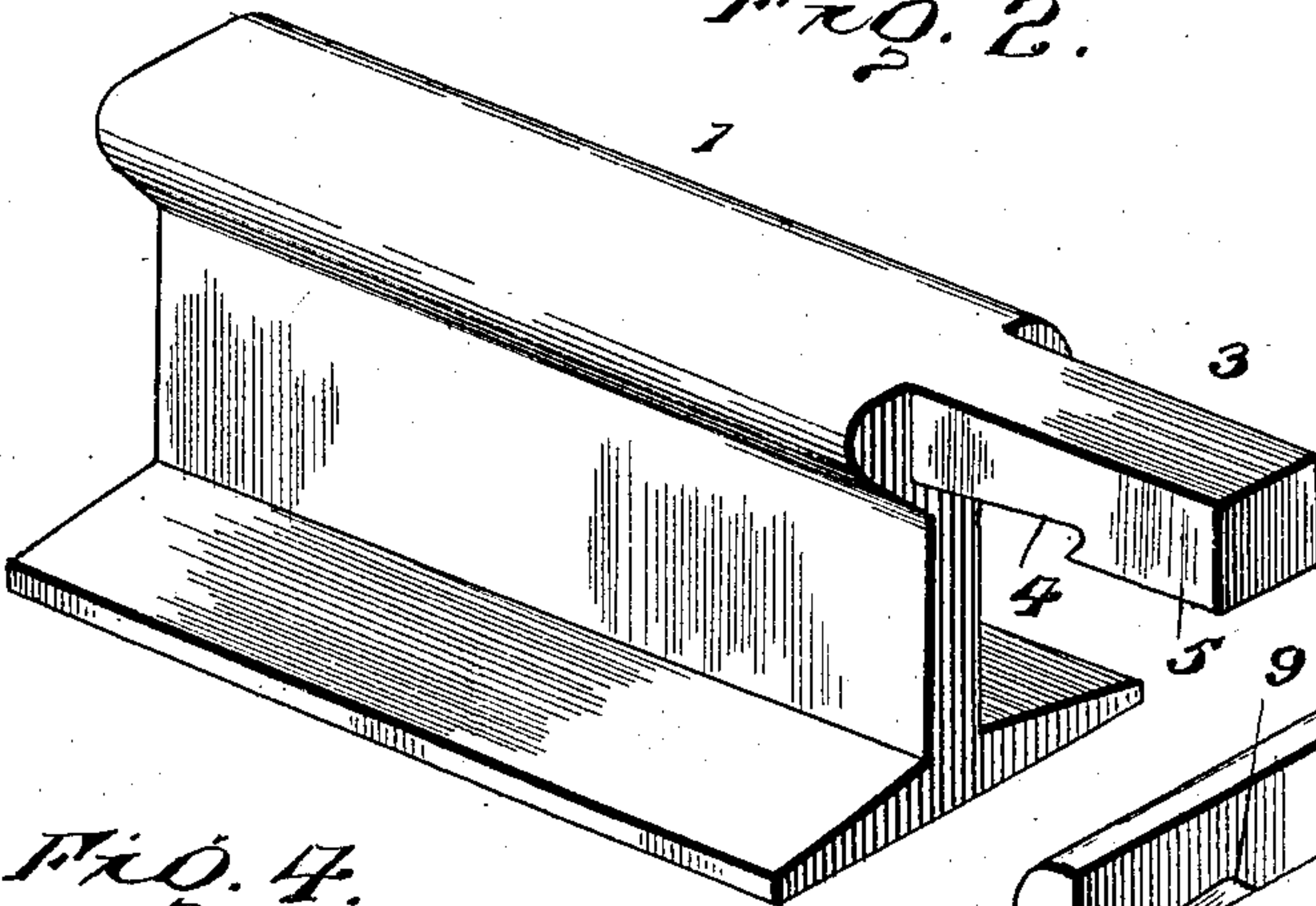


FIG. 3.

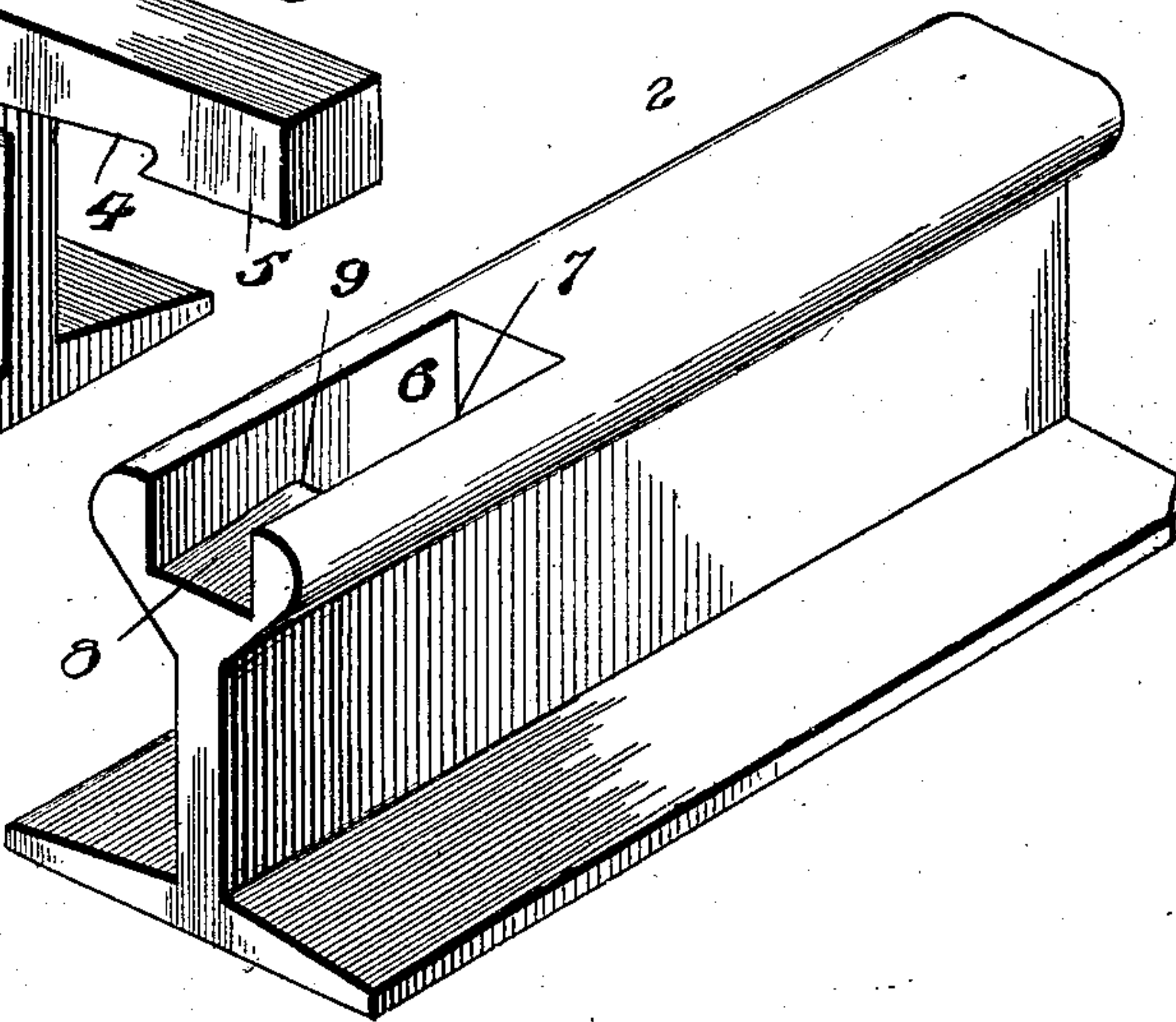


FIG. 4.

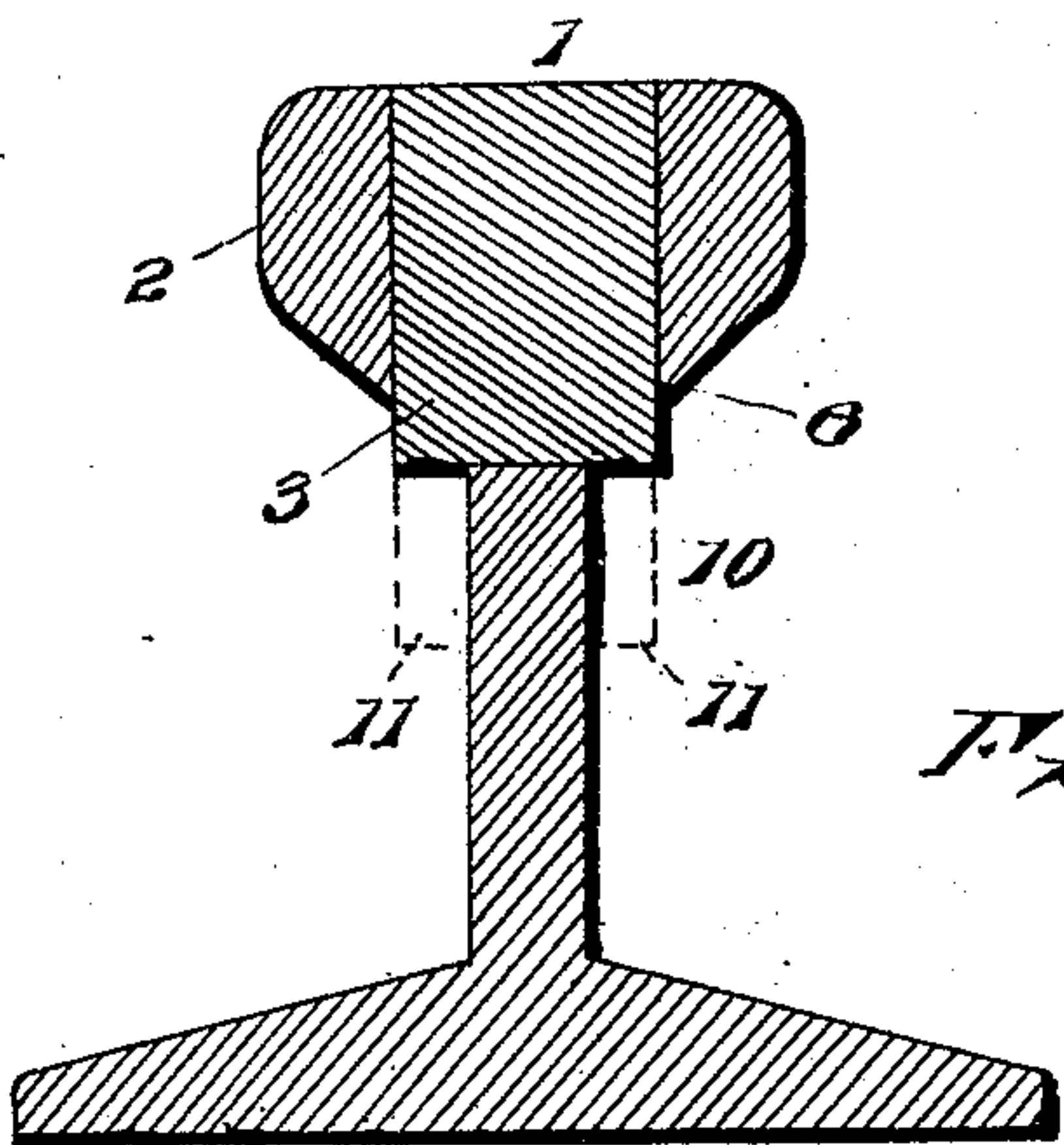
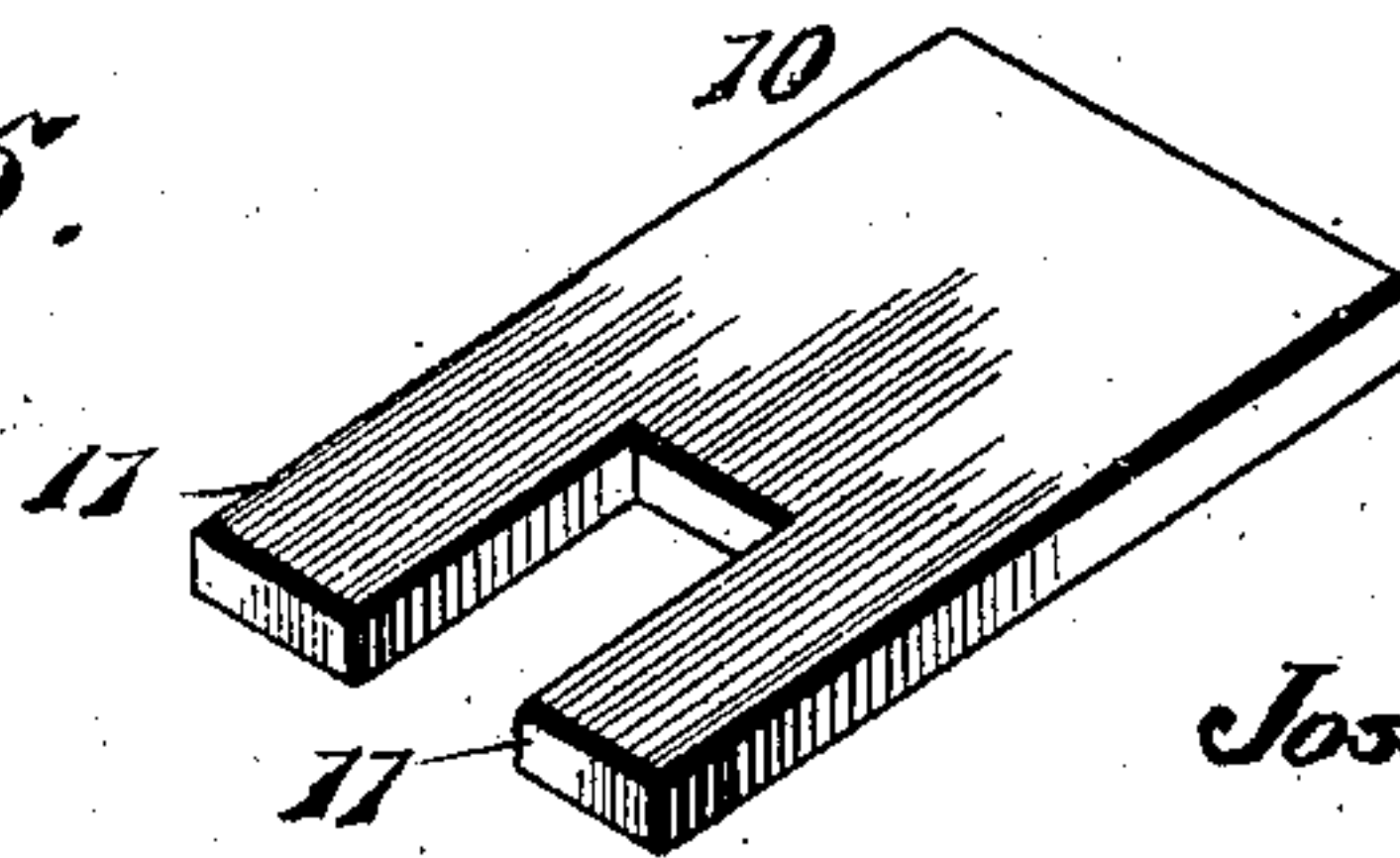


FIG. 5.



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RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 747,670, dated December 22, 1903.

Application filed September 22, 1902. Renewed May 19, 1903. Serial No. 157,832. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH H. YOUNG, a citizen of the United States, residing at South Sharon, in the county of Mercer and State of Pennsylvania, have invented certain new and useful Improvements in Rail-Joints, of which the following is a specification.

This invention, in common with like appliances, aims to provide a rail-joint free from fish-plates and bolts and presenting a continuous surface to obviate jar and jolt to the rolling-stock passing thereover and which will be secure against any play and withal capable of being cheaply constructed, readily assembled, and firmly braced.

The joint comprises, essentially, a hook-shaped projection at the end of a rail, a mortise at the end of the mating or adjacent rail to snugly receive the hook-shaped projection, and a key to hold the parts when interlocked, the elements being of peculiar construction, as most clearly set forth in the following description and appended claim.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result reference is to be had to the following description and drawings hereto attached.

While the essential and characteristic features of the invention are susceptible of modification, still the preferred embodiment of the invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a rail-joint embodying the invention, parts being broken away to show more clearly the relative arrangement of the cooperating elements. Fig. 2 is a perspective view of one member of the joint, showing the hook-shaped projection. Fig. 3 is a perspective view of the other member of the joint having the mortise. Fig. 4 is a transverse section about on the line 3-3 of Fig. 1, the dotted lines showing the position of the legs of the key preliminary to being bent. Fig. 5 is a detail view of the key.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The joint comprises the members 1 and 2, being the mating ends of adjacent rails.

The member 1 is provided with a hook-shaped projection 3, forming an integral part thereof and having its upper side flush with the top side of the rail. The under side of the shank portion of the hook-shaped projection is inclined, as shown at 4, and the shoulder 5, formed at the base of the inclined portion 4, is undercut, so as to interlock with the deepened portion of the mortise and prevent relative vertical displacement of the members 1 and 2 after being properly coupled or assembled. The hook-shaped projection 3 extends lengthwise of the rail and springs from the head thereof and spans the joint and forms a support for the wheels of the rolling-stock when passing over said joint, thereby preventing the accustomed jar or jolt experienced when passing over open or spaced joints.

The member 2 of the joint is provided with a mortise 6, corresponding in shape to the projection 3 of the member 1, so as to snugly receive said projection and prevent any play of the parts when interlocked. The inner end of the mortise is deepened, as shown at 7, to receive the hook portion at the outer end of the projection 3 and also to provide an escape for moisture or any foreign matter that may find its way into the mortise. The deepened part 7 of the mortise extends through the lower side of the head of the rail, thereby providing the escape-openings and admitting of the legs of the key projecting beyond the head of the rail, so as to be bent against the under side thereof to hold the key against casual displacement. The floor or lower wall of the front portion of the mortise is inclined, as shown at 8, to correspond with the inclined lower side 4 of the hook-shaped projection 3. The shoulder 9, formed at the inner end of the inclined wall 8, is undercut conformable to the inclined shoulder 5 of the part 3, thereby making provision for interlocking of the two shoulders 5 and 9, so as to prevent vertical and longitudinal displacement of the members when coupled.

The hook-shaped projection 3 is slightly shorter than the mortise 6, whereby a vertical space is left for the reception of the key 10. When the joint is properly formed, the hook-shaped projection 3 is supported throughout its length by the head and web

portions of the member 2, forming the bottom side of the mortise 6, the shank of the part 3 resting upon the part 8 and the hook portion of said part 3 resting upon the upper edge of the part of the web in vertical line with the deepened portion 7 of the mortise.

The key 10 is of a size to snugly fit the space formed between the outer end of the part 3 and the inner end of the mortise 6, its upper end coming flush with the top of the rail when the key is forced home. The lower end of the key is provided with transversely-spaced legs 11, which embrace opposite sides of the web portion of the member 2 and are bent to engage with the under side of the head of said member to prevent vertical displacement of the key. A longitudinal movement of the members 1 and 2 is necessary in order to admit of the inclined shoulders 5 and 9 of the elements 3 and 6 clearing each other when it is required either to couple or disconnect the parts 1 and 2. After said members 1 and 2 have been properly fitted together and moved apart to cause the interlocking of the shoulders 5 and 9 the key 10 is placed in position, thereby preventing inward movement of the members 1 and 2 to effect disengagement of the parts 5 and 9. After the key has been forced home its legs 11 are bent in the manner stated, thereby securing the joint. When it is required to separate the joint for any purpose, it is necessary to first straighten the legs 11 before the key 10 can be withdrawn, after which the members 1 and 2 are

35 moved inward to disconnect the parts 5 and 9, when the members 1 and 2 can be readily separated.

Having thus described the invention, what is claimed as new is—

In a rail-joint, a member having a hook-shaped projection extended from its head, the inner side of the shank being inclined and the shoulder at the outer end of the inclined portion being undercut, a mating member having a mortise in the top side of its head corresponding to the hook-shaped projection to snugly receive it, the inner end of the mortise being deepened to extend through the bottom side of the head, the shoulder at the outer end of the deepened part being undercut and the bottom of the outer portion of the mortise being inclined, and a key inserted between the mortise and hook-shaped projection to hold the said undercut shoulders interlocked, said key having its upper end flush with the top of the rail and having legs at its lower end to come upon opposite sides of the web of the rail and bent against the under side of the head of the member having the mortise, substantially as 60 specified.

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

JOSEPH H. YOUNG. [L. S.]

Witnesses:

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