

No. 721,219.

PATENTED FEB. 24, 1903.

W. T. McBRIDE.

RAIL TIE.

APPLICATION FILED AUG. 27, 1901. RENEWED SEPT. 3, 1902.

NO MODEL.

2 SHEETS—SHEET 1.

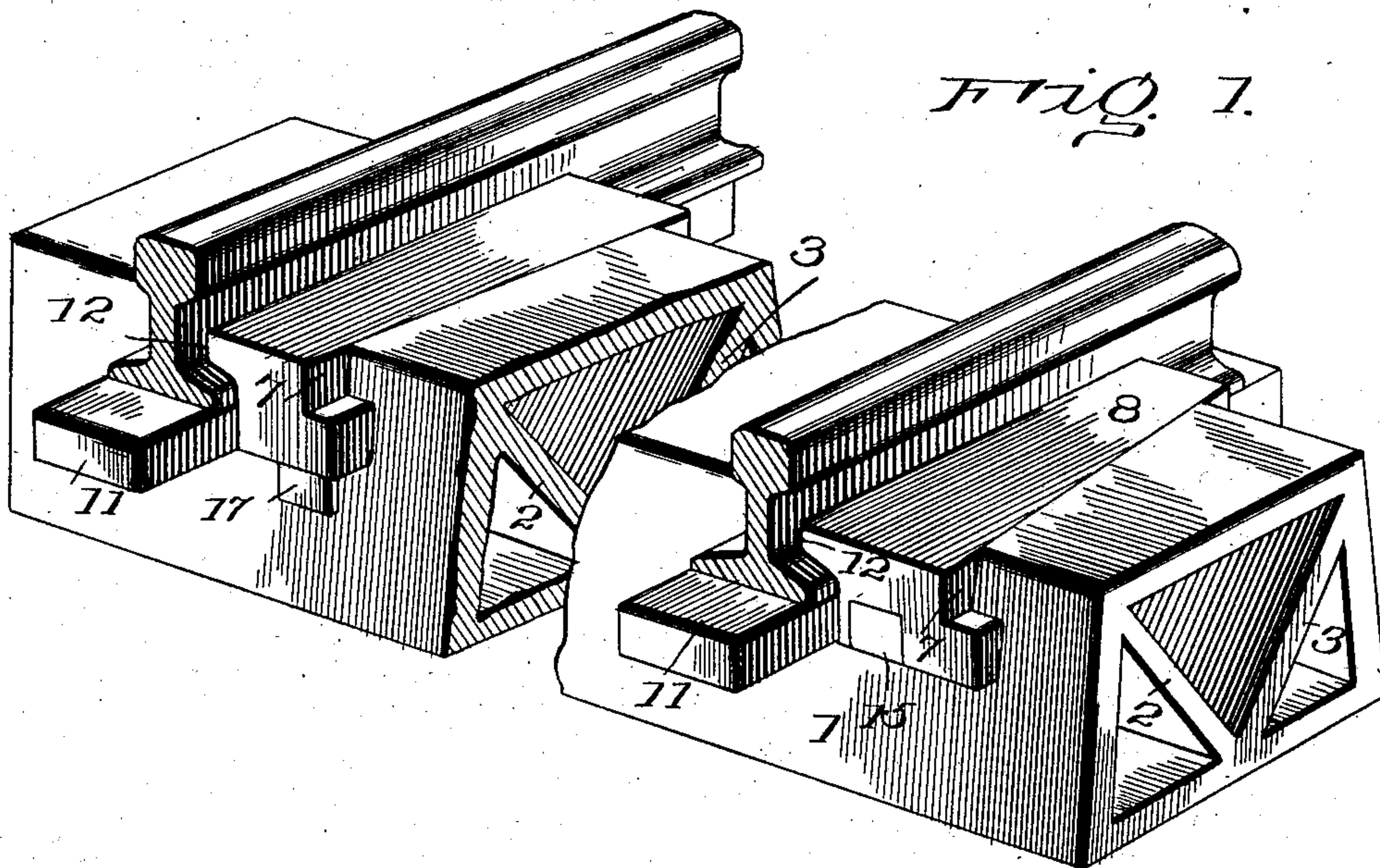


Fig. 2.

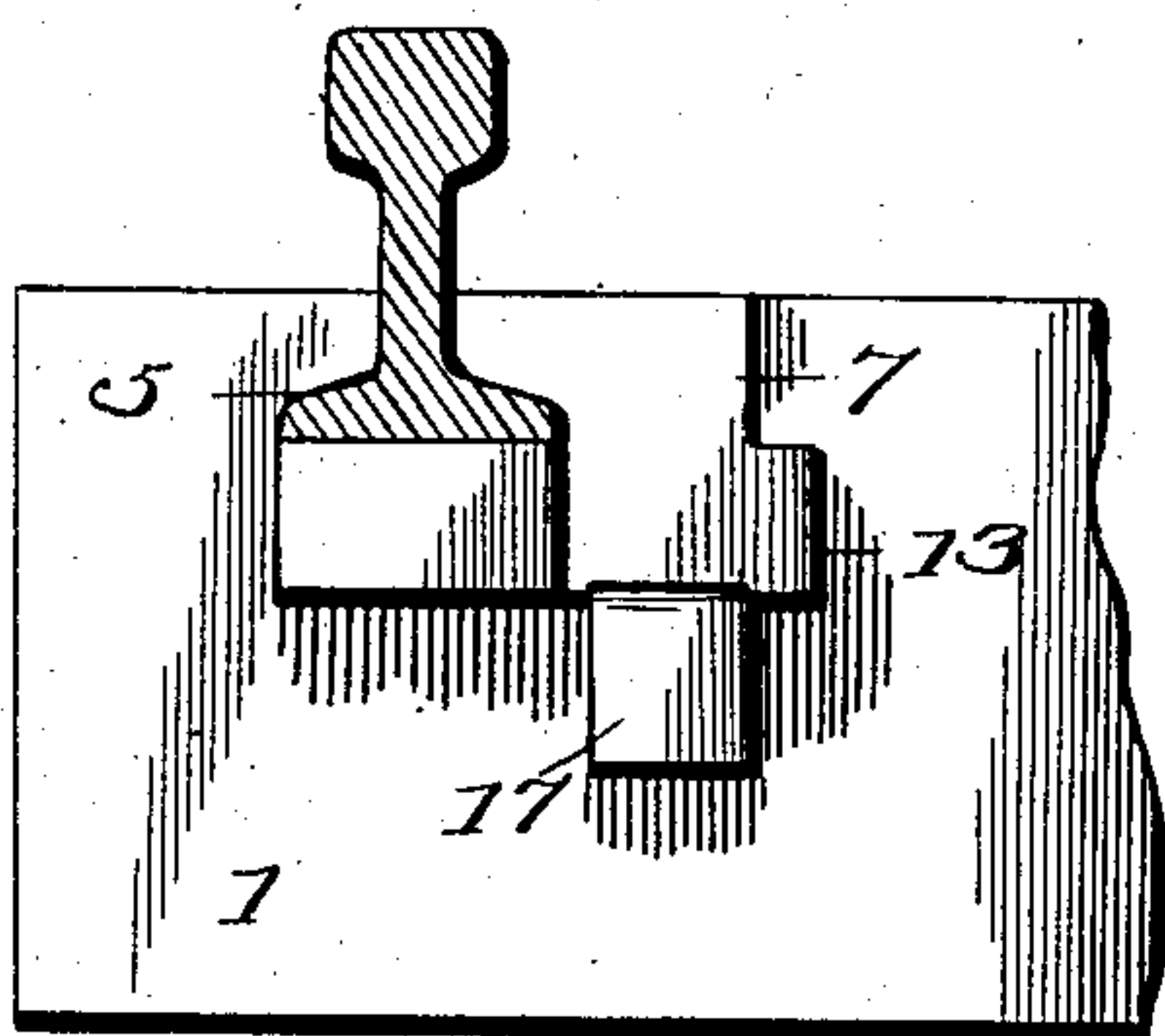


Fig. 3.

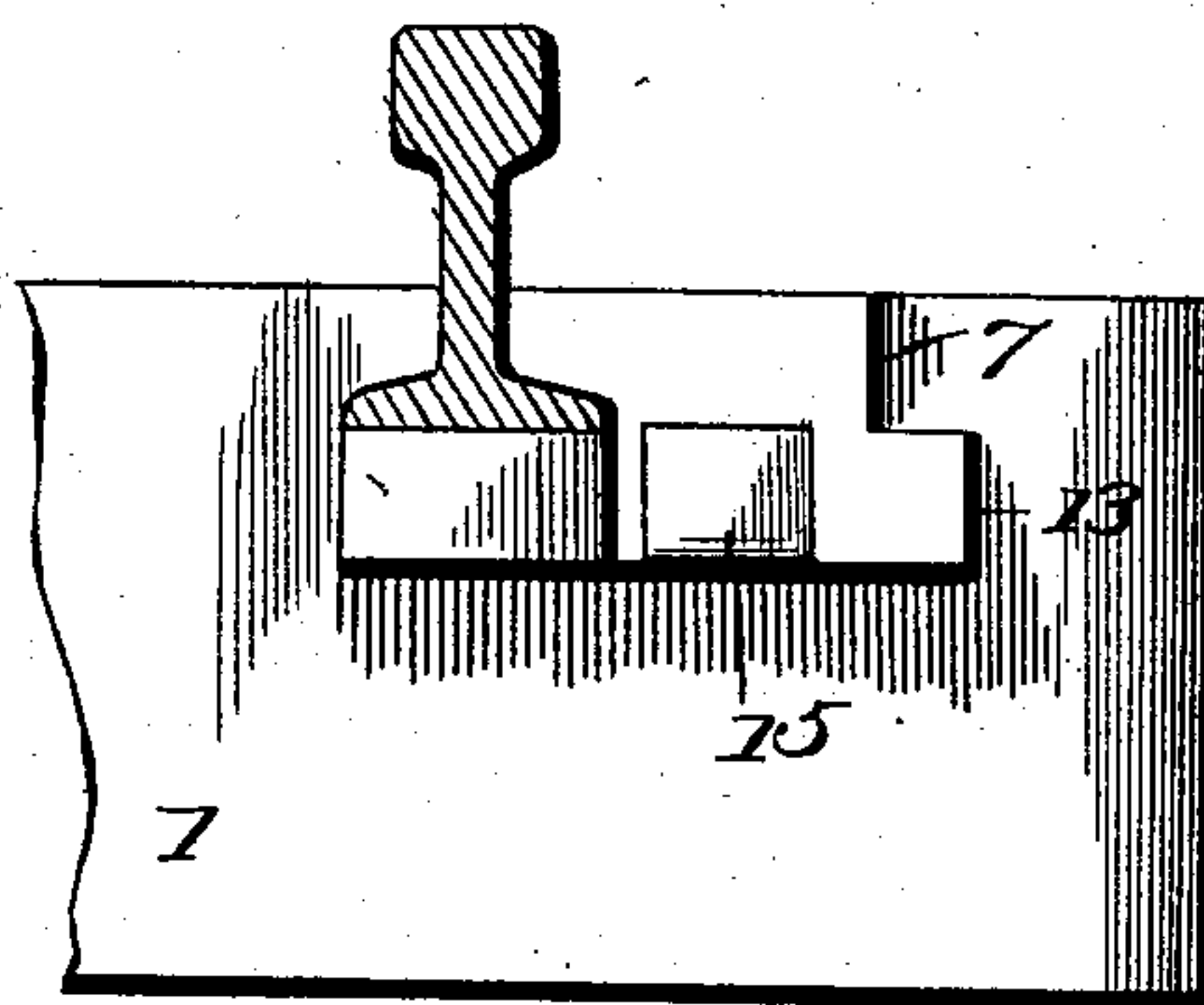
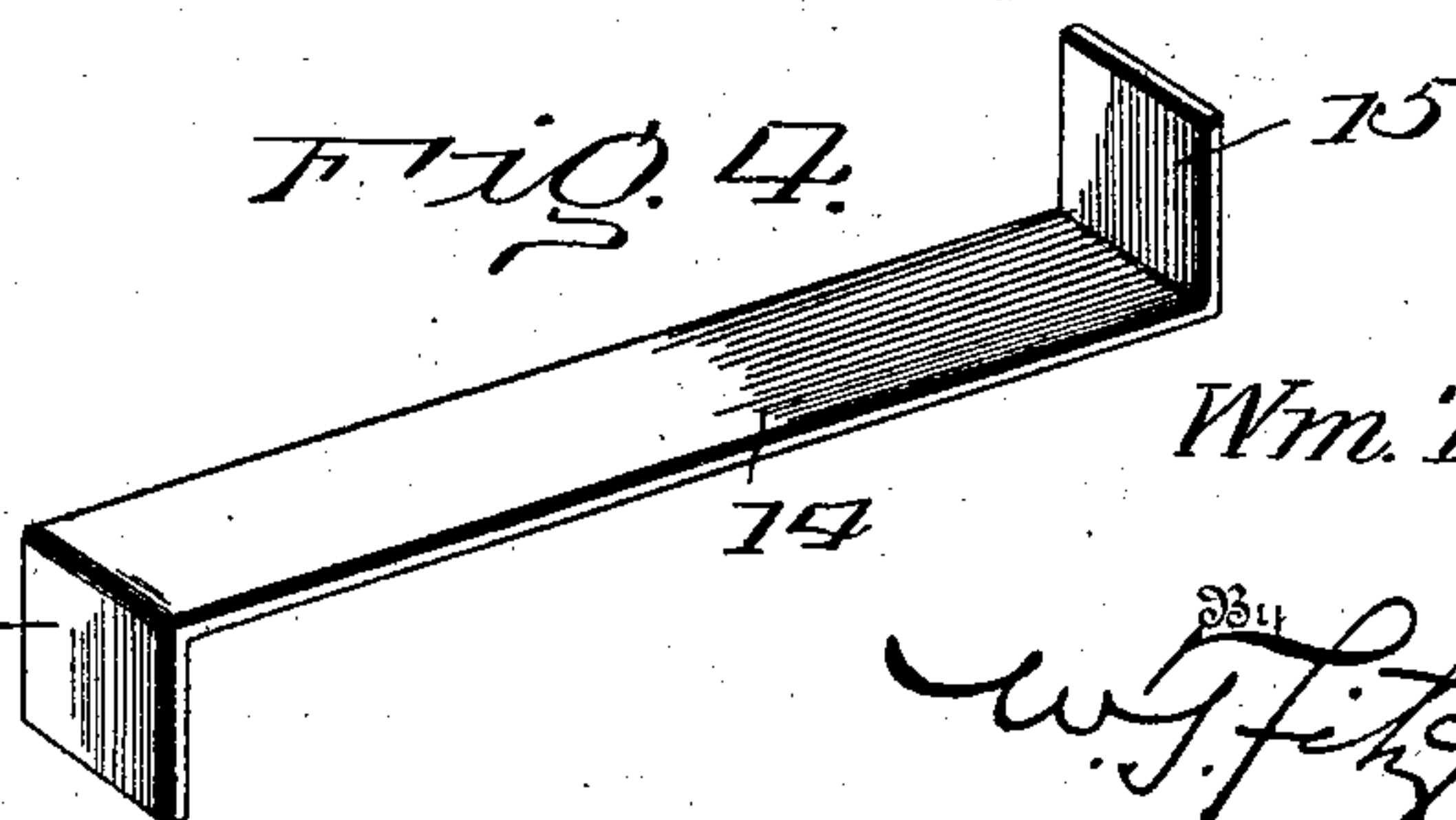


Fig. 4.



Witnesses

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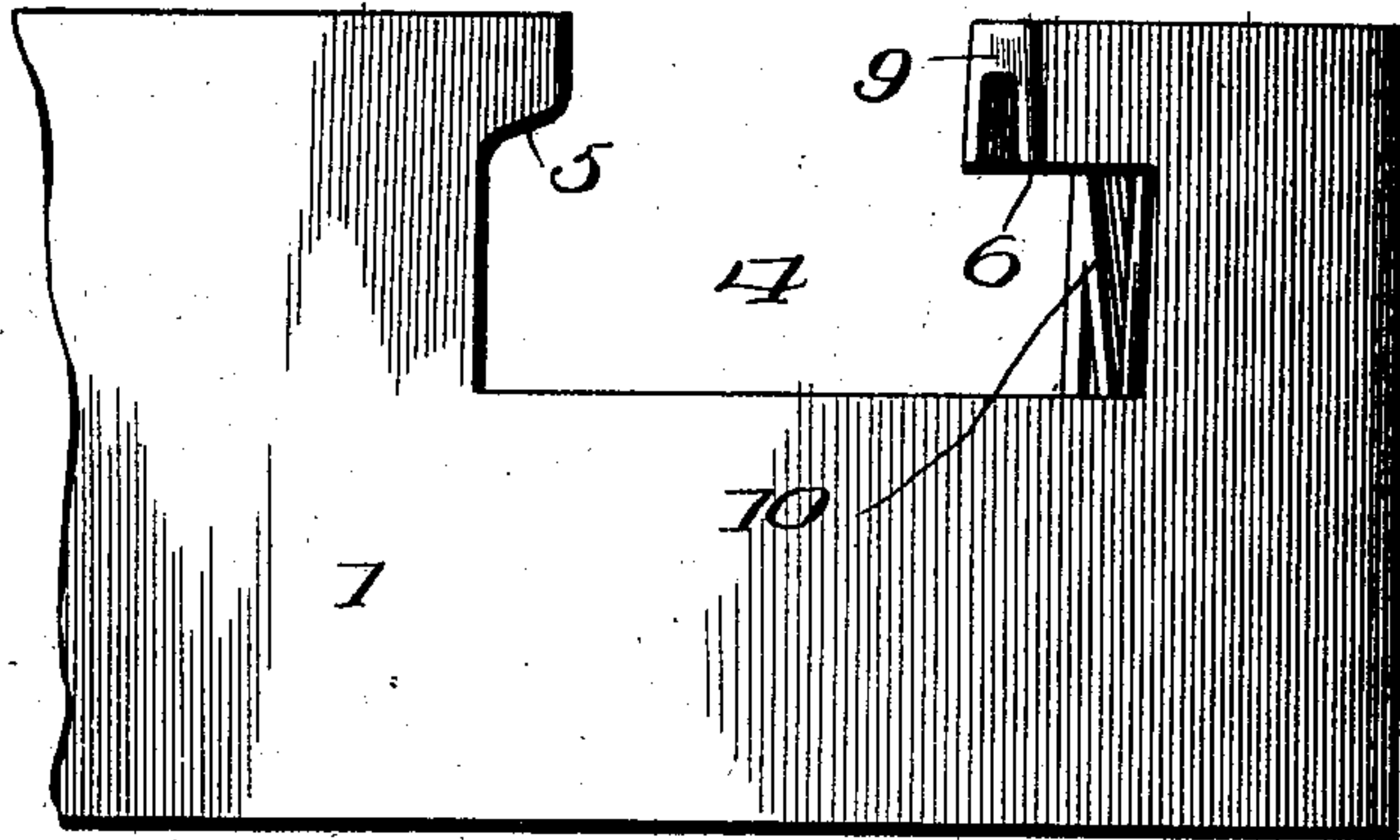


Fig. 5.

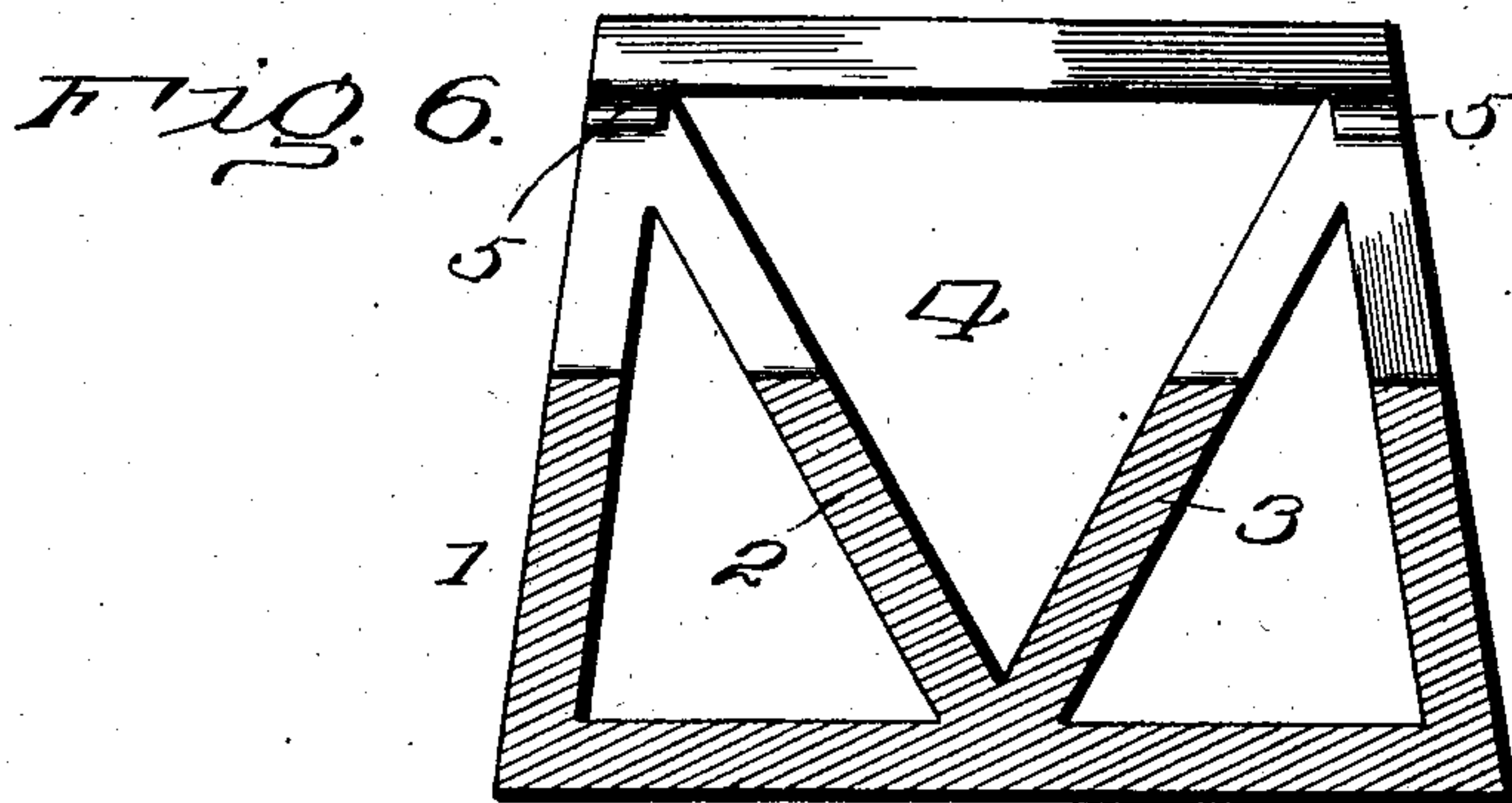


Fig. 6.

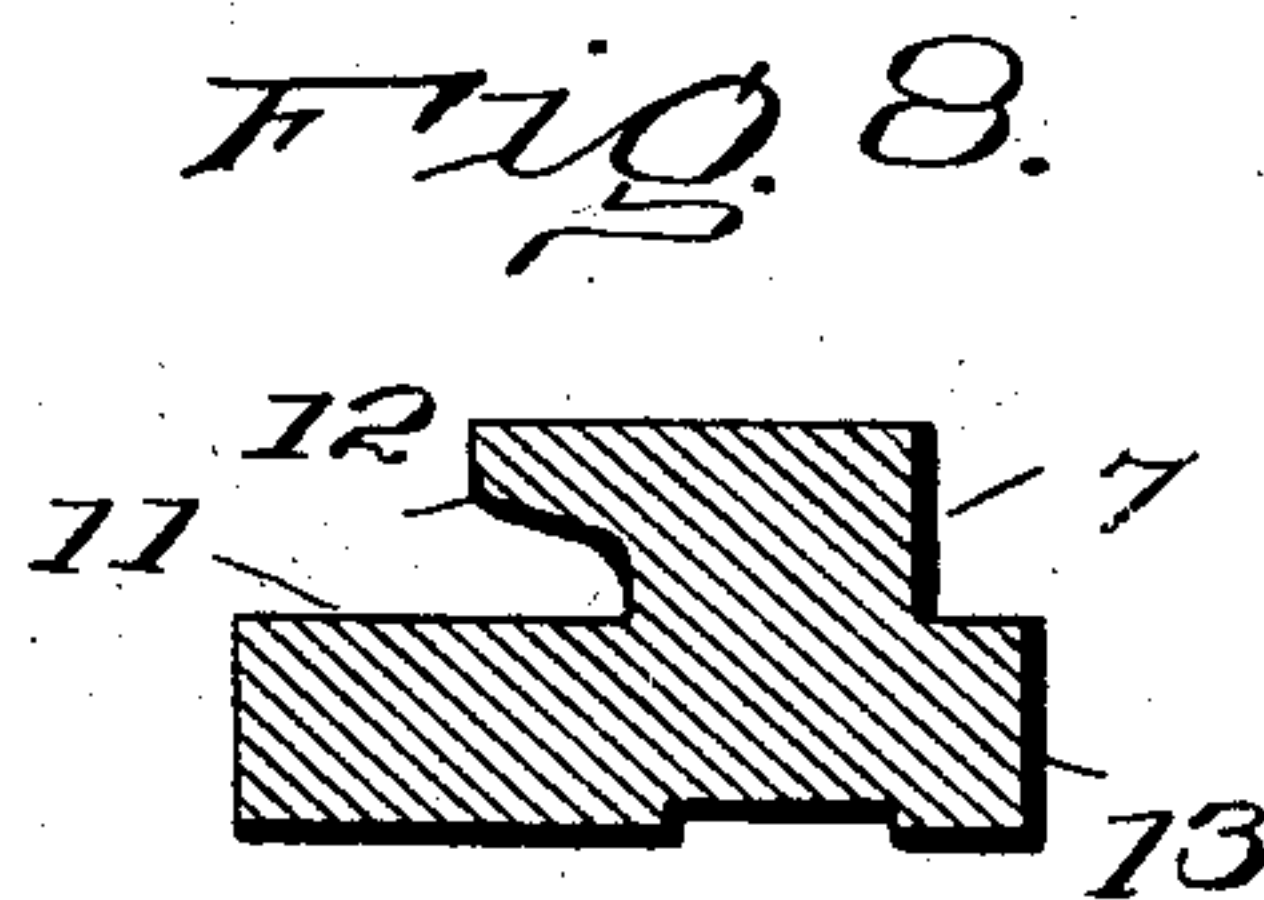


Fig. 8.

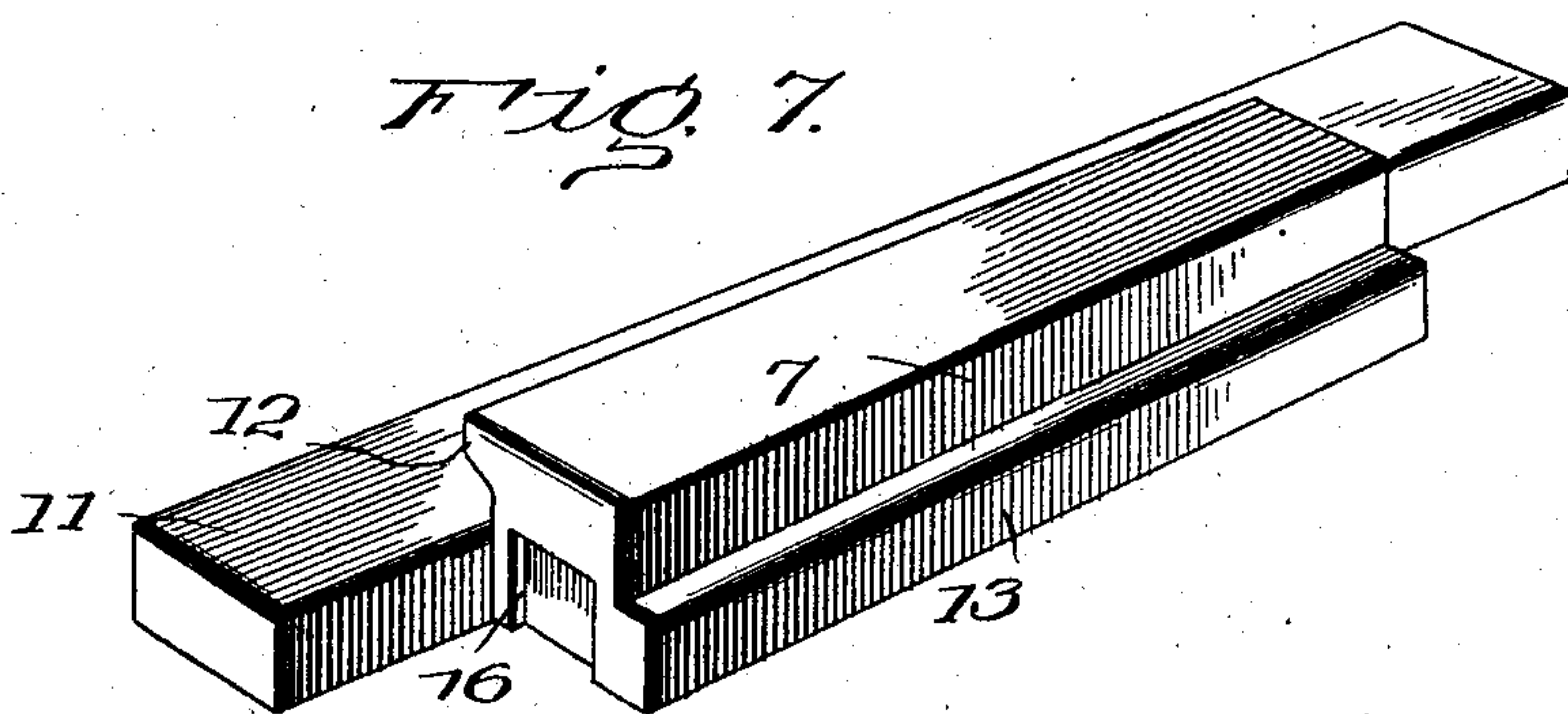


Fig. 7.

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UNITED STATES PATENT OFFICE.

WILLIAM T. McBRIDE, OF FRANKFORT, INDIANA.

RAIL-TIE.

SPECIFICATION forming part of Letters Patent No. 721,219, dated February 24, 1903.

Application filed August 27, 1901. Renewed September 3, 1902. Serial No. 122,012. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM T. McBRIDE, a citizen of the United States, residing at Frankfort, in the county of Clinton and State of Indiana, have invented certain new and useful Improvements in Rail-Ties; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has relation to cross-ties and rail-fastenings designed to cooperate therewith; and it consists, essentially, of certain novel features of construction and combination of parts, the preferred form or physical embodiment whereof will be fully set forth in the following specification and illustrated in the accompanying drawings.

The prime object of my invention is to provide a cross-tie of great strength and rigidity and a fastening designed to cooperate with the tie, whereby the track-rail may be reliably secured in relationship to the tie, my securing device permitting the rail to be readily disengaged from its seat in the tie for the purpose of replacement or repair of any of the parts.

Other objects and advantages will be made clearly apparent from the following specification.

In the accompanying drawings, Figure 1 is a perspective view showing my invention as applied to use. Fig. 2 is a transverse section of the rail, showing an end view of my securing device and a side elevation of a portion of my improved tie, while Fig. 3 is a similar view of my securing device, taken from the opposite side from that presented in Fig. 2. Fig. 4 is a perspective detail view of the locking means employed to hold my rail-chair in position. Fig. 5 is a side elevation of my tie, showing the rail and securing device removed. Fig. 6 is a transverse section of my rail-tie, taken on a line with the seat occupied by the rail. Fig. 7 is a perspective detail view of my improved rail-chair separated from the tie. Fig. 8 is a transverse central section of Fig. 7.

In order to conveniently designate the several parts of my invention and cooperating accessories, numerals will be employed, of which 1 indicates my improved tie, which is

preferably rectangular in form, though possessing a base of greater width than the top portion thereof, my tie being internally reinforced by outwardly-inclined rib-sections 2 and 3, which spring from the central portion of the base-section and extend upward in engagement with the upper portions of the side sections of my tie, it being understood that all of said parts forming the tie are preferably made integral, though they may be otherwise formed.

I form in the upper portion of my improved tie thus or otherwise constructed the transversely-extending recesses 4, so formed as to be provided with the shoulder 5 and the offset 6, the said shoulder being designed to engage the base of the rail, while the offset 6 is designed to cooperate with a wedge-like face 7 of my rail-chair 8, it being understood that the faces 9 and 10, cooperating with the offset 6, are to be so formed that they will be disposed at an oblique angle with respect to the transverse plane of the tie.

In Fig. 7 I have illustrated my rail-chair in detail, wherein it will be observed that the base or body-section 11 is provided, upon which the base of the rail is designed to rest, it being understood that one side of said base is to be engaged by the shoulder 5, while the other side thereof is engaged by the overhanging shoulder 12. The wedge-like face 7 is designed to cooperate with the face 9, while the wedge-face 13, which lies substantially parallel with the face 7, is designed to cooperate with the face 10 upon the tie, said face being located below the offset 6, and it is obvious that when the rail is secured in position upon the body portion 11 and the wedge-like chair driven home within its seat said rail will be very reliably secured in its adjusted operative position, and in order that the rail-chair may not become casually disengaged from its operative place I provide the locking member 14, provided with the vertically-disposed end section or head 15, which when disposed in its operative position will rest in the countersink 16, provided in the end of the rail 7. When the securing-plate 14 is thus driven home, the opposite end of said plate from that occupied by the head 15 is designed to be bent downward substantially parallel with a contiguous part of the

tie, as indicated by the numeral 17 in Fig. 1. My rail-chairs are substantially of the same construction, though the seats formed in the tie are so constructed that the bevel-faces 9 and 10 will be oppositely disposed with respect to each other, and it is therefore clearly apparent that the rail-chairs must be entered in their respective positions from opposite sides of the tie, so that the binding or wedge-like action of the securing devices thus provided will be oppositely disposed with respect to each other and will tend to insure a more perfect coöperation when applied to use.

It will of course be obvious that the seats for the rail-chairs may be so tapered that the wedge-like action thus set up will extend in the same direction, as may be desirable, when the traffic upon the rails is all in one direction. When, however, as upon single-track roads, the traffic is in opposite directions, it will be found more desirable and important to dispose said wedge-like operation of the rail-chairs oppositely with respect to each other.

It will be understood that various modifications in the details of construction of the various parts of my invention may be adopted without materially departing from the spirit and scope of my invention, and I therefore wish to comprehend in this application all substantial equivalents and substitutes.

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

1. The herein-described rail-tie comprising a hollow body portion having outwardly-inclined reinforcing or bracing sections springing from a common center and connected to the upper part of the side walls, all of said parts being integral, substantially as specified and for the purpose set forth.

2. In rail-fastenings, the combination with the tie having oppositely-tapered seats, of rail-chairs having an extended body portion proper adapted to sustain the base of the rail and provided with tapering faces adapted to fit said tapering seats, whereby when the chairs are driven home in said seats they will securely engage a contiguous part of the rail, and suitable means to lock the rail-chairs in their operative seats, substantially as specified and for the purpose set forth.

3. In rail-fastenings, the herein-described rail-chair comprising an elongated body portion provided with tapering faces upon one side and an overhanging lip or shoulder upon the opposite side whereby when said chair is seated in its operative position said lip will engage a contiguous part of the rail and hold said rail against movement, substantially as specified and for the purpose set forth.

4. The herein-described rail-fastening com-

prising the elongated body portion adapted to sustain the base of the rail and provided with wedge-like faces upon one side and an overhanging shoulder upon the other side, substantially as specified and for the purpose set forth.

5. In rail-fastenings, the combination with the tie having a pair of oppositely-tapered seats, of a rail-chair adapted to fit said seats and provided with an elongated body portion designed to sustain the base of the rail and means to lock the chair in its seat, substantially as specified and for the purpose set forth.

6. The herein-described rail-fastening comprising a tie having oppositely-tapered recesses or seats in its upper portion designed to bear the weight of the rail and a locking-plate adapted to fit a recess in the underside of the rail-chair whereby when the free end of said plate is bent downward the chair will be locked against casual movement, all combined substantially as specified and for the purpose set forth.

7. The herein-described rail-tie comprising a hollow body portion reinforced by the outwardly-inclined bracing-sections springing from a common center and engaging the outer edges of the top section of the tie all substantially as specified and for the purpose set forth.

8. The combination with a rail-tie having oppositely-tapering chair-seats, of a chair adapted to fit said seats and having an elongated body portion; wedge-like faces carried by one side of said chair and fitting corresponding faces in said seat, and an overhanging shoulder upon the opposite side of said chair adapted to engage a contiguous part of the rail, said seat in the tie having an undercut adapted to receive the opposite side of the rail whereby when the rail-chair is driven home in its seat the rail will be firmly secured all combined substantially as specified and for the purpose set forth.

9. The herein-described rail-chair comprising a body portion of sufficient length to reinforce the rail upon each side of the tie and provided upon one side with wedge-like faces and upon the other side with an overhanging shoulder and having a groove or longitudinal recess upon its lower side, in combination with a locking-spring adapted to fit said groove, all substantially as specified and for the purpose set forth.

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

WILLIAM T. McBRIDE.

Witnesses:

WILLIAM R. HINES,
ALBERT H. CABLE.