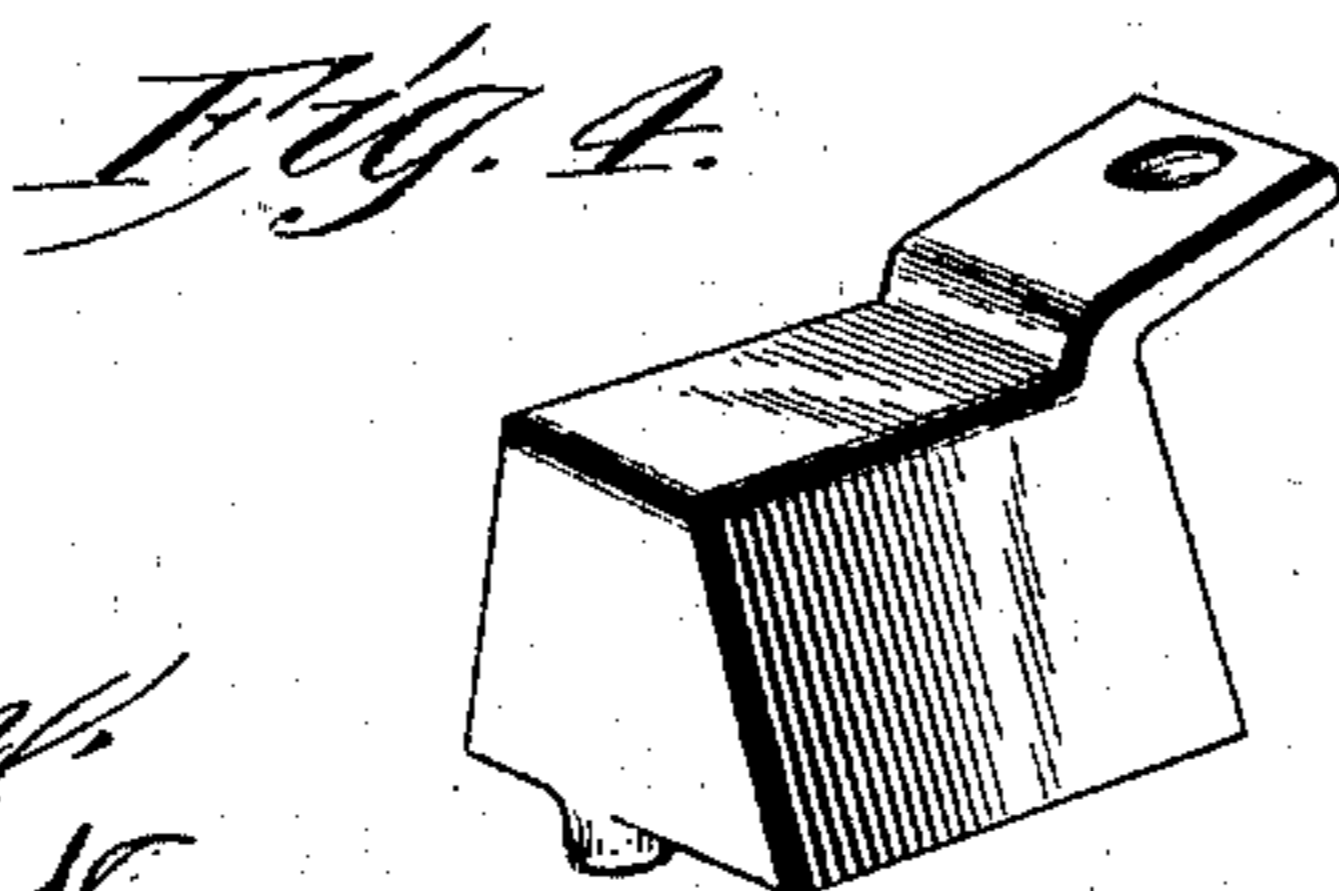
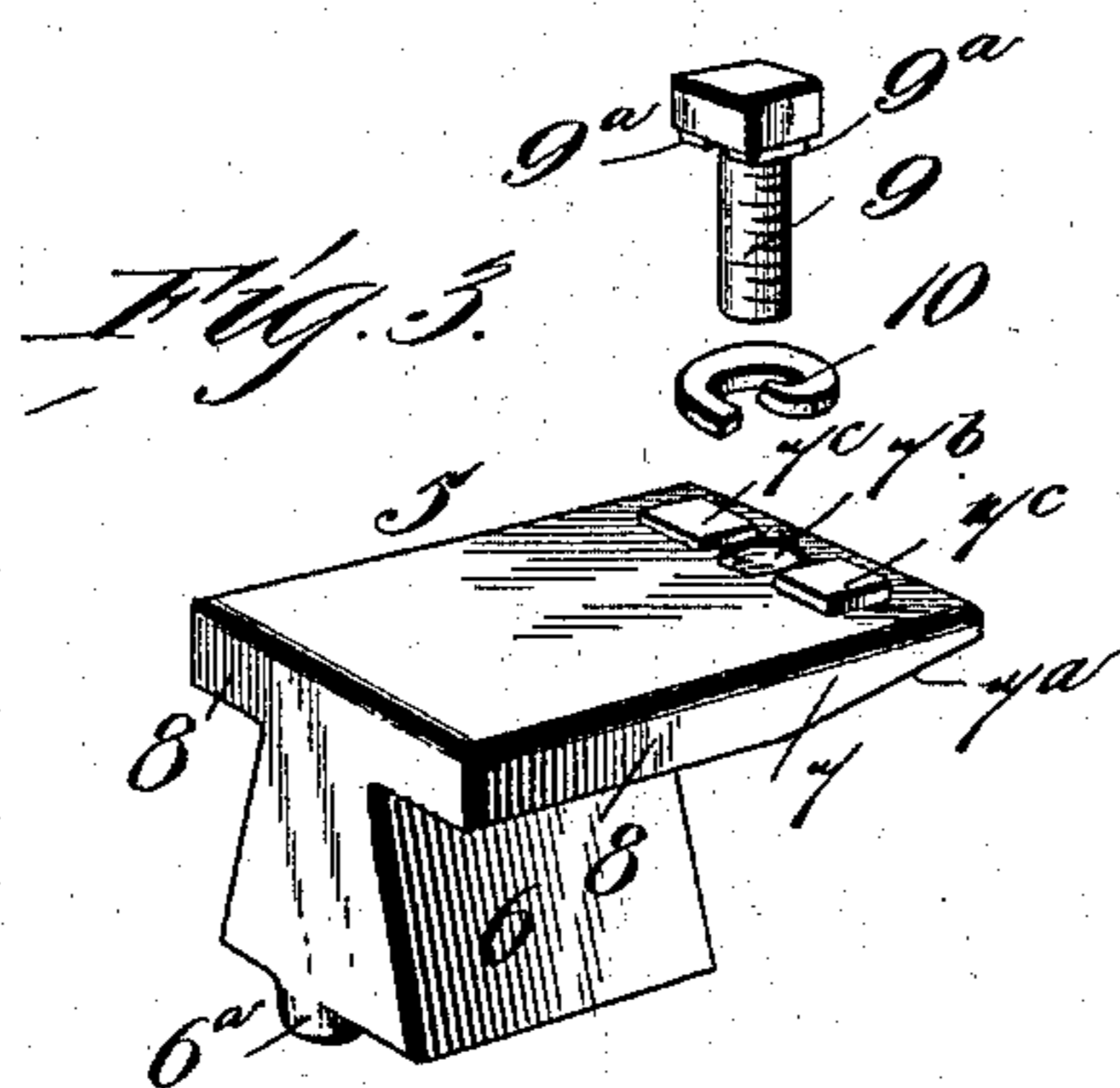
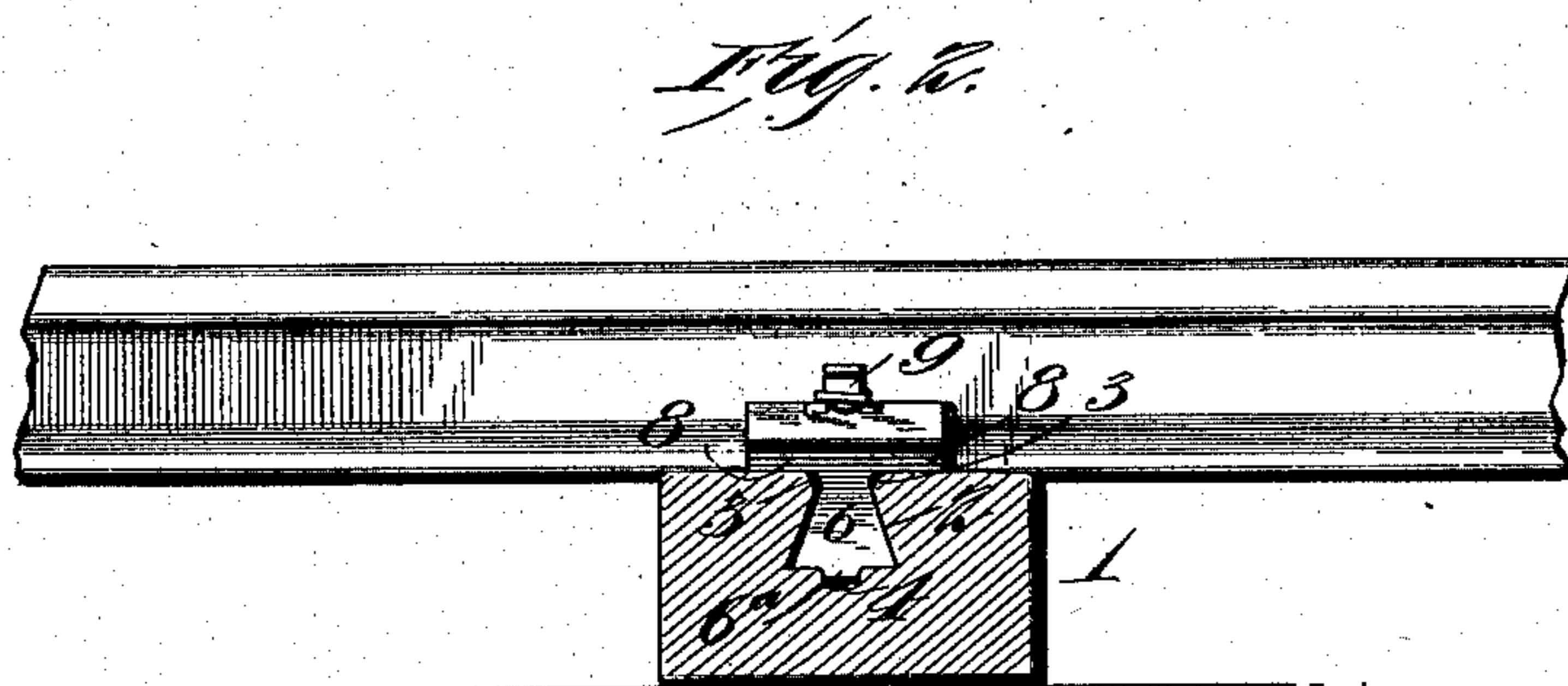
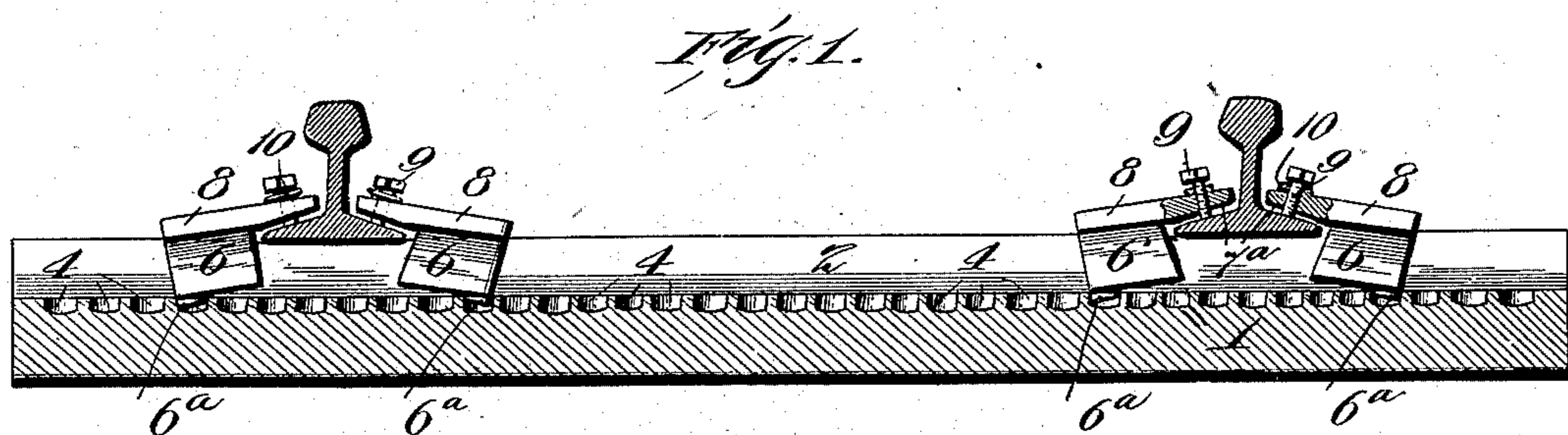


No. 719,779.

PATENTED FEB. 3, 1903.

F. FOSTER.
RAIL FASTENING FOR RAILROAD TIES.
APPLICATION FILED NOV. 1, 1902.

NO MODEL.



WITNESSES:

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UNITED STATES PATENT OFFICE.

FRANK FOSTER, OF COLUMBUS, OHIO, ASSIGNOR OF ONE-HALF TO CHARLES RANSOM GARDNER, OF COLUMBUS, OHIO.

RAIL-FASTENING FOR RAILROAD-TIES.

SPECIFICATION forming part of Letters Patent No. 719,779, dated February 3, 1903.

Application filed November 1, 1902. Serial No. 129,638. (No model.)

To all whom it may concern:

Be it known that I, FRANK FOSTER, of Columbus, in the county of Franklin and State of Ohio, have invented a new and useful Improvement in Rail-Fastenings for Railroad-Ties, of which the following is a specification.

My invention relates to rail-fastenings for that type of railroad-ties known as "metallic ties," and has for its object to provide a tie and fastening therefor which shall be durable, simple in construction, and by means of which the rails may be firmly clamped, easily adjusted or removed, and permit contraction and expansion of the rails.

My invention consists in certain novel features of construction, arrangement, and combination of parts, as will be hereinafter fully described, and pointed out in the claims, reference being had to the accompanying drawings, in which—

Figure 1 is a longitudinal section of my device. Fig. 2 is a transverse section. Fig. 3 is a detail perspective view. Fig. 4 is a view of a form of clamp to be used in connection with frog and switch rails.

In carrying out my invention I use a metal tie 1, having a dovetailed or inverted-V-shaped longitudinal channel or groove 2, rolled throughout its entire length, forming the overhanging flanges 3 3. In the bottom of said channel or groove are formed depressions, recesses, or indentations 4, of circular or any other suitable shape, and said indentations are made a suitable depth and distance apart and extend throughout the entire length of the groove 2.

The means for securing the rails to the ties consist of a clamp 5, the body portion 6 of which is made dovetailed or a substantially inverted-V shape, corresponding to the shape of the groove 2. The said clamp is provided with the forwardly-extending nose 7 and the horizontal oppositely-extending overhanging flanges 8 8, forming the top portion of said clamp. The lower face of the nose 7 of the clamp is beveled upwardly toward its front edge, as shown at 7^a in Fig. 3. At the lower back edge of the body portion 6 is formed the downwardly-projecting lug or teat 6^a, the purpose of which will be more fully described later on. The projecting nose 7 has near its

front edge a heavily-threaded bolt-hole 7^b, and on the upper face of said nose, at opposite sides of said bolt-hole 7^b, are formed the square lugs 7^c. In the bolt-hole is screwed a bolt 9, the under side of the head of which is provided with the square lugs 9^a, similar to those on the upper face of the nose 7. Surrounding the bolt and between its head and the upper surface of the nose 7 is interposed a split spring-ring locking-washer 10, the ends of which project in opposite directions and are adapted to lock the bolt against retrograde movement when once fully set, as one end of the said split ring will engage with one of the lugs on the upper face of the nose 7 and the other with one of the lugs on the under surface of the head of bolt 9 when said bolt is turned backwardly.

To secure the rails to the tie, one of the clamps 5 is slid into the groove or channel 2 from the end a suitable distance. The rail is then placed on the tie, the flange of said rail passing under the beveled nose 7 of the clamp, which causes said clamp to tilt and force the lug or teat 6^a into one of the recesses or depressions 4. The other clamp is then slid into the channel up against the rail, the beveled nose 7 riding upon the flange of the rail and causing the clamp to tilt and force the teat or lug on this clamp into one of the recesses or depressions in the bottom of the channel. The bolts 9 are then screwed through the nose 7 of the clamp, the lower end of said bolt bearing against the upper face of the flange of the rail, and this action causes the clamps to tilt still more and in addition to forcing the teat or lug at the lower back edge into one of the depressions in the channel causes the flanges 8 of the clamps 5 to bear at their rear against the upper face of the tie, and at the same time the front of the dovetailed body portion is forced upwardly in the groove and binds against the inner walls of said groove, thus securely locking said clamp in position, the lug or teat preventing any backward movement of the clamps, and thus securely clamping the rail in place.

For switch and frog rail work the overhanging flanges are preferably omitted and the nose curved upwardly and forwardly, as shown in Fig. 4.

It will be noticed that when the rail is tightly clamped to the tie the lower end of the bolt is the only point of contact. Hence contraction and expansion of the rails can take place.

It will be seen that I provide a metallic railroad-tie that is simple, cheap, and efficient and to which by my improved clamps the rails can be quickly adjusted to alter and correct the gage, securely held in place, and also readily removed therefrom when necessary.

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

1. A fastening for railroad-rails comprising a metallic tie consisting of a body portion provided with a longitudinal undercut channel in its upper face, recesses or depressions in the bottom of said channel, wedge-shaped clamps fitting in said channel, a lug or teat projecting downwardly from said clamps and means for tilting said clamps and forcing said lug or teat into the depressions or recesses in said channel and locking the clamp to the flanges of the rails.

2. A fastening for railroad-rails comprising a metallic tie consisting of a body portion provided with a wedge-shaped channel in its upper face, a longitudinal row of depressions or recesses in the bottom of said channel, clamps consisting of a wedge-shaped body portion fitting within said channel, a nose projecting forwardly from said body portion, a teat or lug projecting downwardly from the lower rear end of said body portion of the clamp, and bolts threaded through the projecting nose of the clamp and bearing against the flanges of the rails whereby the clamps are caused to tilt and force the downwardly-projecting teat or lug into the recesses or depressions in the wedge-shaped channel and clamp the rails in position.

3. A fastening for railroad-rails comprising a metallic tie provided with a wedge-shaped longitudinal groove in its upper face and depressions or recesses in the bottom of said channel, clamps fitting in said channel and each consisting of a wedge-shaped body portion having side flanges or shoulders projecting horizontally from its upper portion, and provided with a downwardly-projecting teat or lug at its lower rear end, a nose projecting forwardly from its front upper end, said nose

beveled on its under face, and a bolt threaded through the projecting nose of each clamp and bearing at its lower end against the upper face of the flange of the rail whereby when the bolts are screwed downwardly the clamps are caused to tilt and force the teats or lugs into the depressions or recesses in the channel and securely lock the rails in position.

4. A fastening for railroad-rails comprising a metallic tie consisting of a body portion provided with a longitudinal channel in its upper face, depressions or recesses in the bottom of said channel, clamps fitting in said grooves, and provided with a downwardly-projecting teat or lug at the lower rear end, and a forwardly-projecting nose at the front end, and means for securing said clamps to the flanges of the rail and forcing the teats or lugs into the depressions or recesses in the bottom of the channel and securely lock the rail in position.

5. A fastening for railroad-rails comprising a metallic tie consisting of a body portion provided with a longitudinal wedge-shaped channel in its upper face and depressions or recesses in the bottom of said channel, clamps fitting in said channel and consisting of a wedge-shaped body portion, a teat or lug projecting downwardly from the lower rear end thereof, a forwardly-projecting nose at the upper front end of said clamp provided with a vertical threaded opening therethrough, lugs on the upper face of said nose at the side of said threaded opening, a bolt fitting said threaded opening and provided with downwardly-projecting lugs on the under face of its head, a split spring-ring interposed between the head of the bolt and the upper face of the projecting nose, the ends of said split ring projecting in opposite directions and adapted to engage the lugs on the nose and bolt-head respectively and lock the bolt, the lower end of the bolt engaging the upper face of the flange of the rail, whereby the clamp is caused to tilt and force the teat or lug into a depression or recess in the channel of the tie, and securely lock the rail in position.

FRANK FOSTER.

Witnesses:

MARTIN KRAUSE,
C. HOWARD DUPHORNE.