

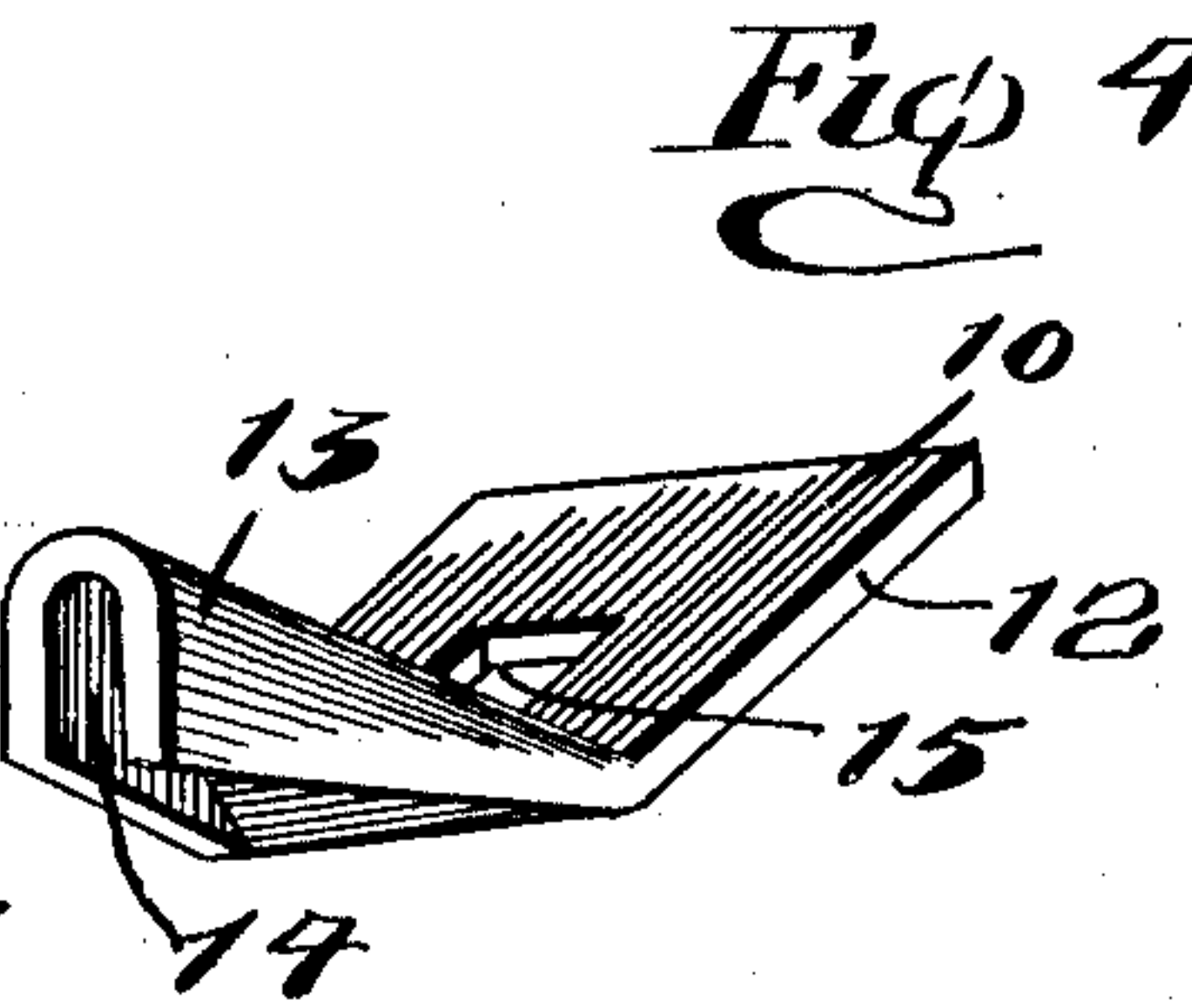
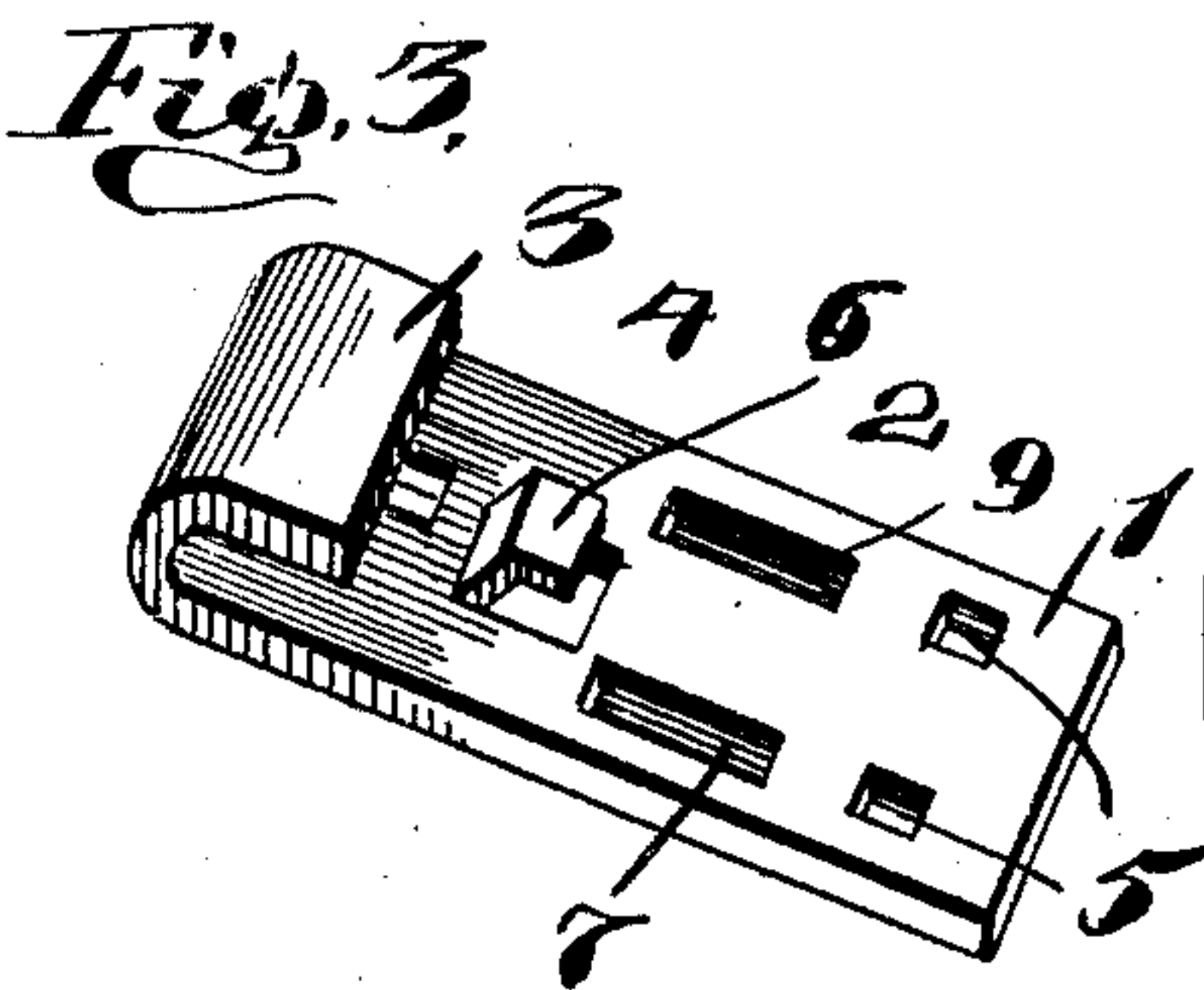
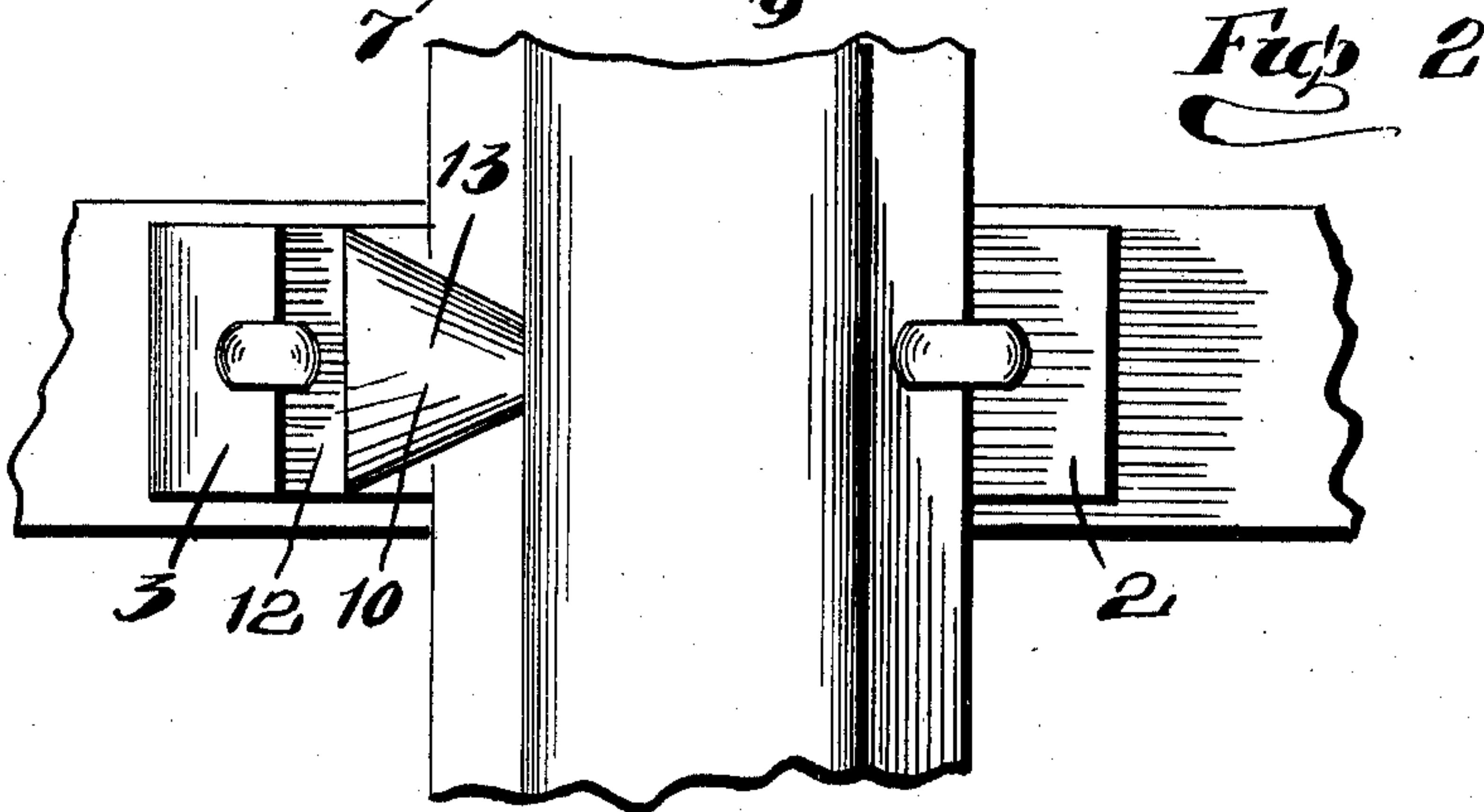
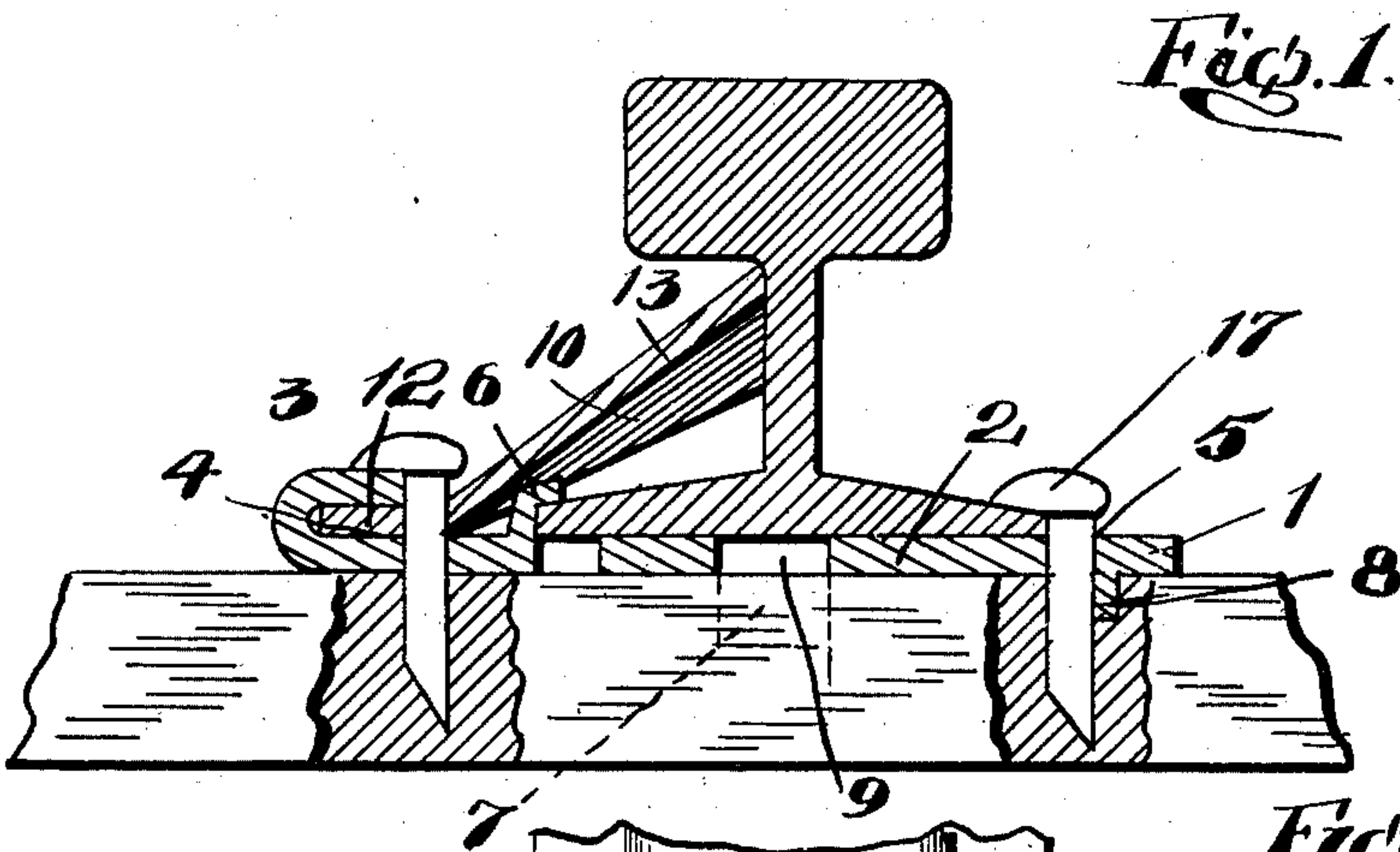
No. 737,701.

PATENTED SEPT. 1, 1903.

J. A. BYSTROM.  
TIE PLATE AND RAIL BRACE.

APPLICATION FILED JULY 6, 1903.

NO MODEL.



Inventor

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Witnesses  
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# UNITED STATES PATENT OFFICE.

JOHN ALBIN BYSTROM, OF CARLTON, MINNESOTA.

## TIE-PLATE AND RAIL-BRACE.

SPECIFICATION forming part of Letters Patent No. 737,701, dated September 1, 1903.

Application filed July 6, 1903. Serial No. 164,405. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN ALBIN BYSTROM, a citizen of the United States, residing at Carlton, in the county of Carlton and State of Minnesota, have invented certain new and useful Improvements in Tie-Plates and Rail-Braces; and I do 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.

This invention relates to improvements in tie-plates and rail-braces for railways.

The object of the invention is to provide a tie-plate and brace of this character which will securely hold the rails and prevent the same from spreading or turning and which will also protect the tie where the rails cross the same.

A further object is to provide a tie-plate and brace of this character which will be simple, strong and durable, inexpensive, and well adapted to the use for which it is designed.

With these and other objects in view the invention consists of certain novel features of construction, combination, and arrangement of parts, as will be more fully described, and particularly pointed out in the appended claims, reference being had to the accompanying drawings, in which—

Figure 1 is a vertical sectional view showing the application of the device to a rail and tie. Fig. 2 is a top plan view of the same. Fig. 3 is a detail perspective view of the tie-plate. Fig. 4 is a similar view of the brace.

Referring more particularly to the drawings, 1 denotes the tie-plate, which may be formed of any suitable metal and either cast or pressed into shape and consisting of a flat plate 2, one end of which is bent up and doubled over the plate, as shown at 3, a space being left between the bent-over portion 3 and the plate.

4 and 5 denote spike-holes formed in the plate, and 6 denotes a lug or lip which may be either cast on the plate 2 or struck out from the same, as shown in the drawings.

7 and 8 denote lugs or teeth formed on the lower side of the plate. These teeth may be cast on or struck out of the metal forming the plate, the latter form being shown in the drawings. The lugs 7 are formed from the

metal struck out of the holes 9, and the lugs 8 are formed from the metal struck out of the spike-holes 5, the lugs 7 and 8 being adapted to enter the ties to aid in holding the plate in place.

10 denotes the brace, which is preferably formed from a single piece of metal cast into shape or bent, as shown in the drawings, to form a base-plate 12 and an inclined brace 13, the inclined portion forming the brace being bent or folded at its outer end, as shown at 14. The folded end 14 is then cut to form a vertical rail-engaging surface. 15 denotes a spike-hole formed in the base-plate.

In arranging the parts the tie-plate is placed upon the tie and the lugs 7 and 8 forced into the same. The rail is then placed in position upon the plate, with the flange on one side engaging the lip or lug 6 and the flange on the other side lying adjacent to the spike-holes 5. Spikes 16 are now driven through the holes 5 and into the tie, with the heads of the same engaging the rail-flange. The brace 10 is now arranged upon the tie-plate, with the base-plate of the same projecting into the space formed by the doubled-over portion 3 of the tie-plate. The spike-hole 15 in the base-plate of the brace is arranged to coincide with the spike-hole 4 in the tie-plate to receive a spike 17, which is driven through the same and into the tie. When the brace is in position upon the tie-plate, the inclined brace portion of the same will engage the web and under side of the head of the rail and securely brace the same against turning or spreading. When the spike 17 is driven through the holes 4 and 15 and into the tie, the head of the same engages the folded-over portion 3 of the chair-plate and securely clamps and holds the same against the base-plate of the brace.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.



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

1. The combination with a rail, of a tie-plate having an edge folded over to form a keeper, a brace bearing upon a side of the rail, and having a foot-piece entering said keeper, and a spike passing through the tie-plate and foot-piece of the brace and securing the same to a tie and having its head bearing upon the upper edge of the keeper and forcing it down upon said foot-piece, substantially as described.

2. The combination with a rail, of a tie-plate having an edge folded over to form a keeper, a brace having an inclined rail-engaging portion and a horizontally-disposed foot or base plate engaging said keeper, a spike passing through the tie-plate and foot-plate of the brace and securing the same to a tie and having its head bearing upon the upper edge of the keeper and forcing it down upon said foot-plate, an upwardly-projecting lip or lug formed on said tie-plate to engage one side of the rail-flange and spikes driven through said tie-plates and adapted to engage the opposite side of the rail-flange to secure

the same upon the tie-plate and to secure the tie-plate to a tie, substantially as described.

3. The combination with a rail, of a tie-plate having an edge folded over to form a keeper, an upwardly-projecting lip formed on said tie-plate to engage one side of the rail-flange, downwardly-projecting lugs formed on the under side of said tie-plates and adapted to enter a tie, a brace bearing upon a side of said rail and having a foot-piece or plate entering said keeper and a spike passing through the tie-plate and foot-piece of the brace and securing the same to a tie, and having its head bearing upon the upper edge of the keeper and forcing it down upon said foot-piece, and spikes driven through said tie-plate, the heads of the same engaging the rail-flange on the side opposite that engaged by the lip on said tie-plate, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOHN ALBIN BYSTROM.

Witnesses:

EMIL NEWQUIST,  
H. E. ROHLF.