

W. WALLACE.
RAIL FASTENER.
APPLICATION FILED JULY 15, 1908.

911,790.

Patented Feb. 9, 1909.
2 SHEETS—SHEET 1.

Fig. 1

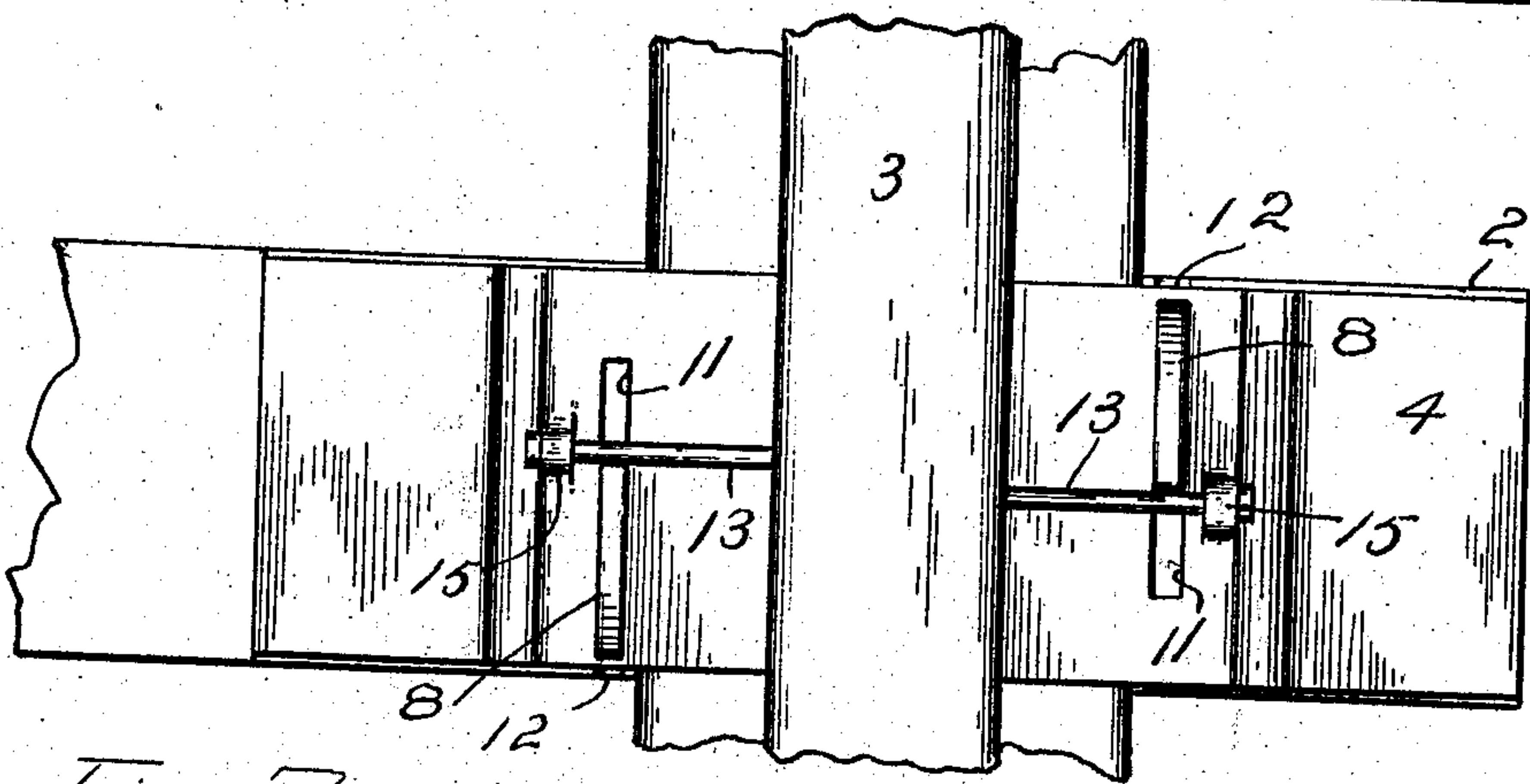
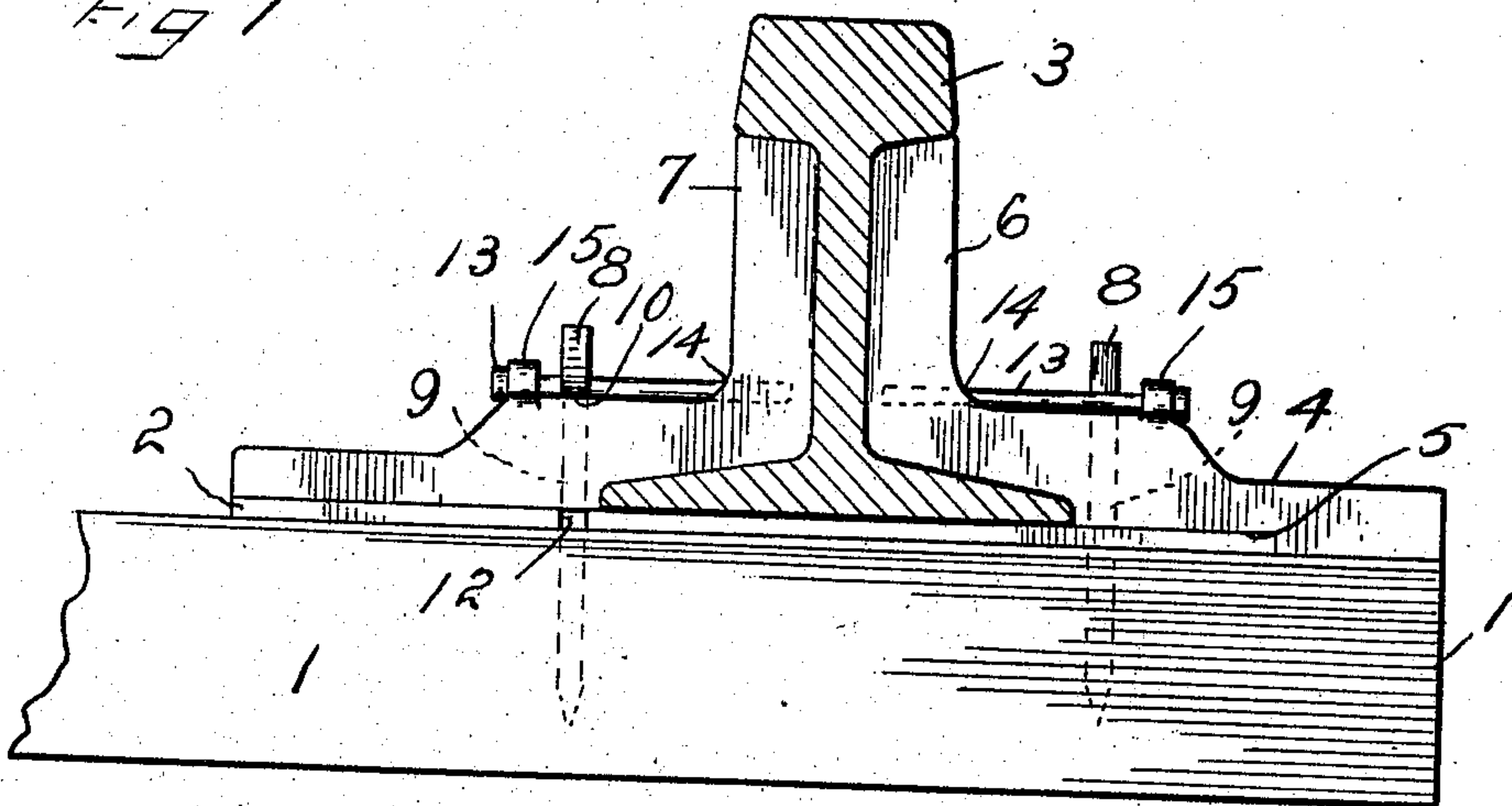


Fig. 2

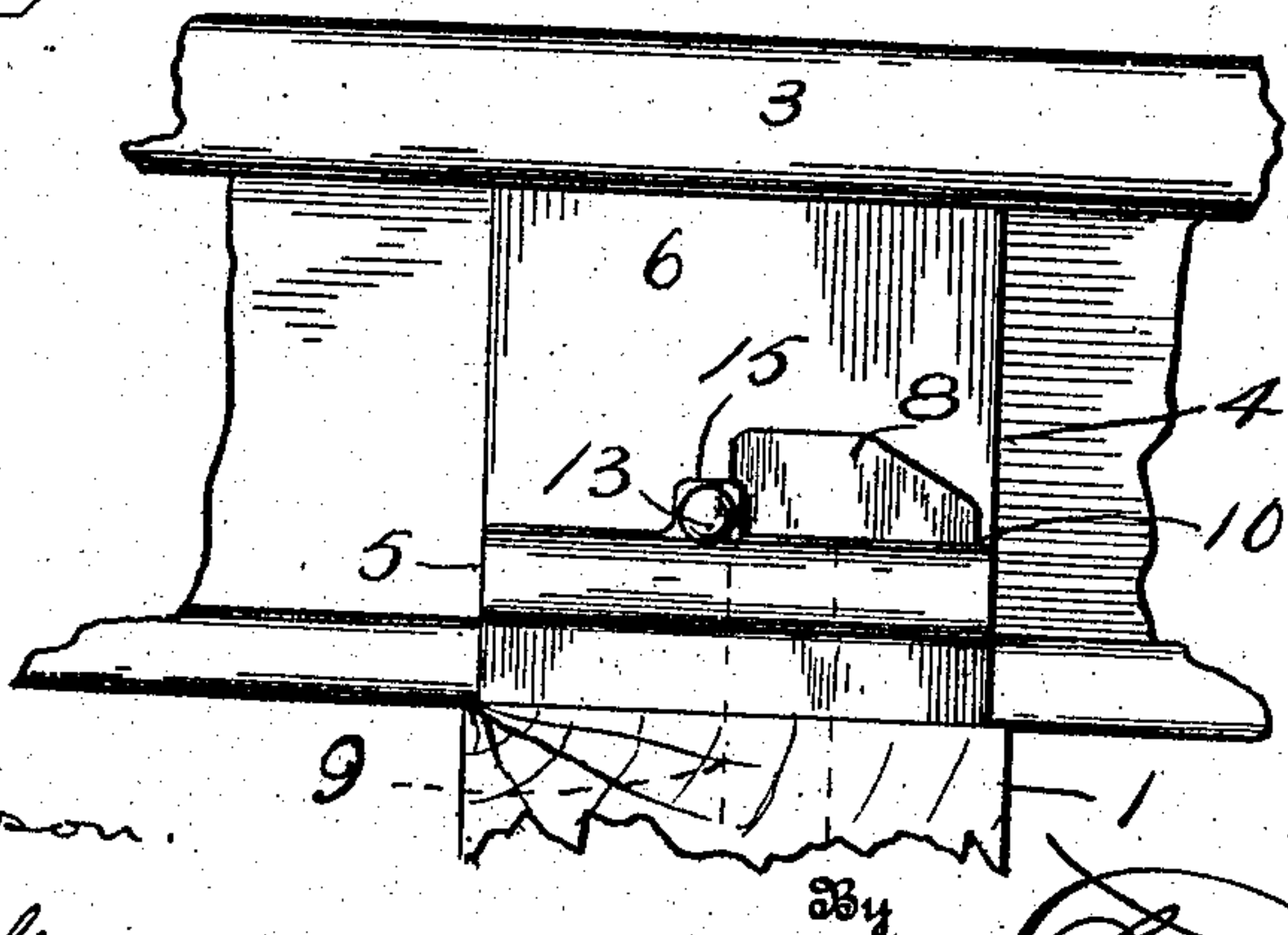


Fig. 3

Witnesses
J. C. Simpson.
M. J. Miller.

Inventor
William Wallace.

Charles Chandler
Attorneys

W. WALLACE.
RAIL FASTENER.
APPLICATION FILED JULY 16, 1908.

911,790.

Patented Feb. 9, 1909.
2 SHEETS—SHEET 2.

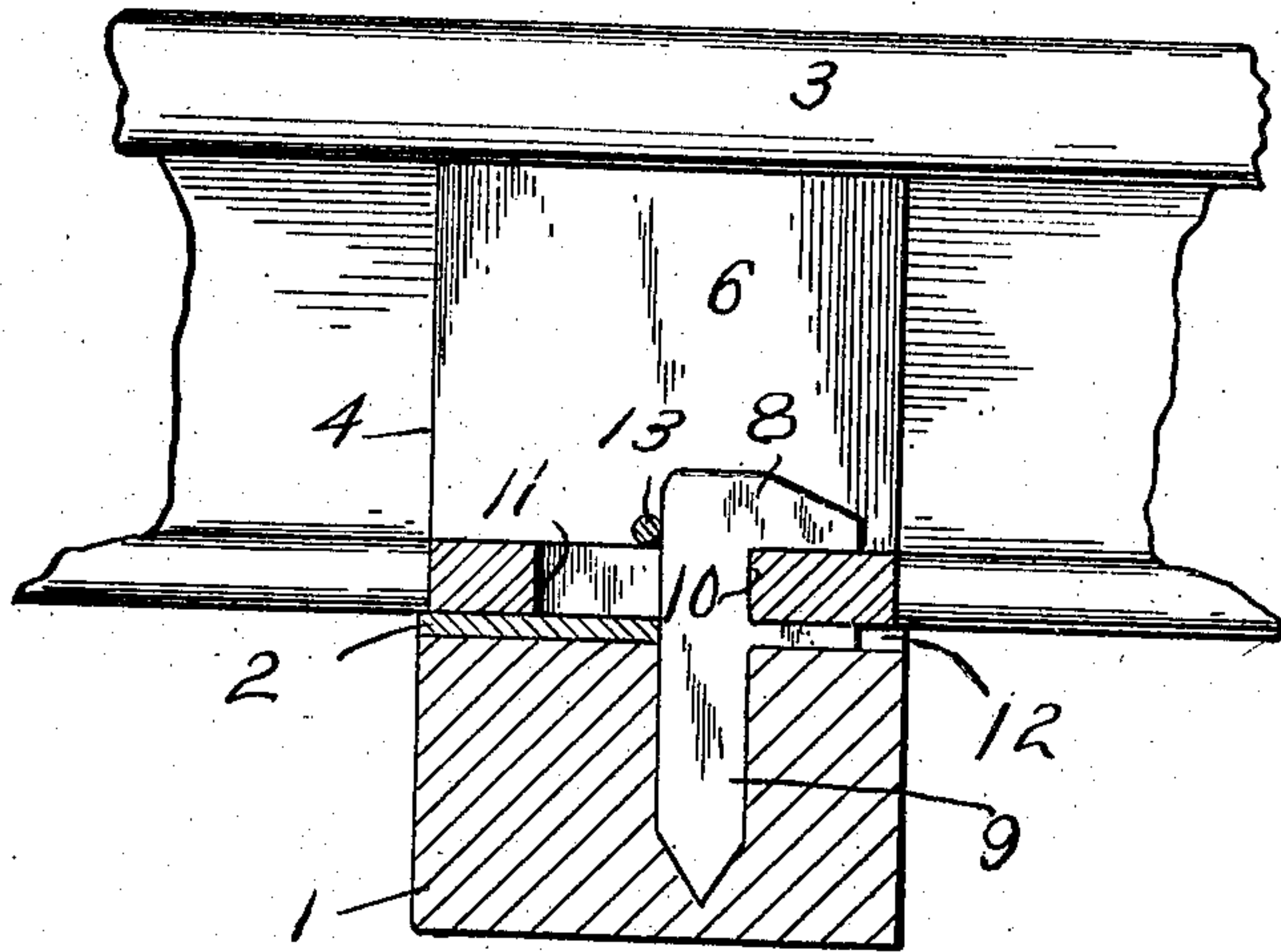


Fig. 4.

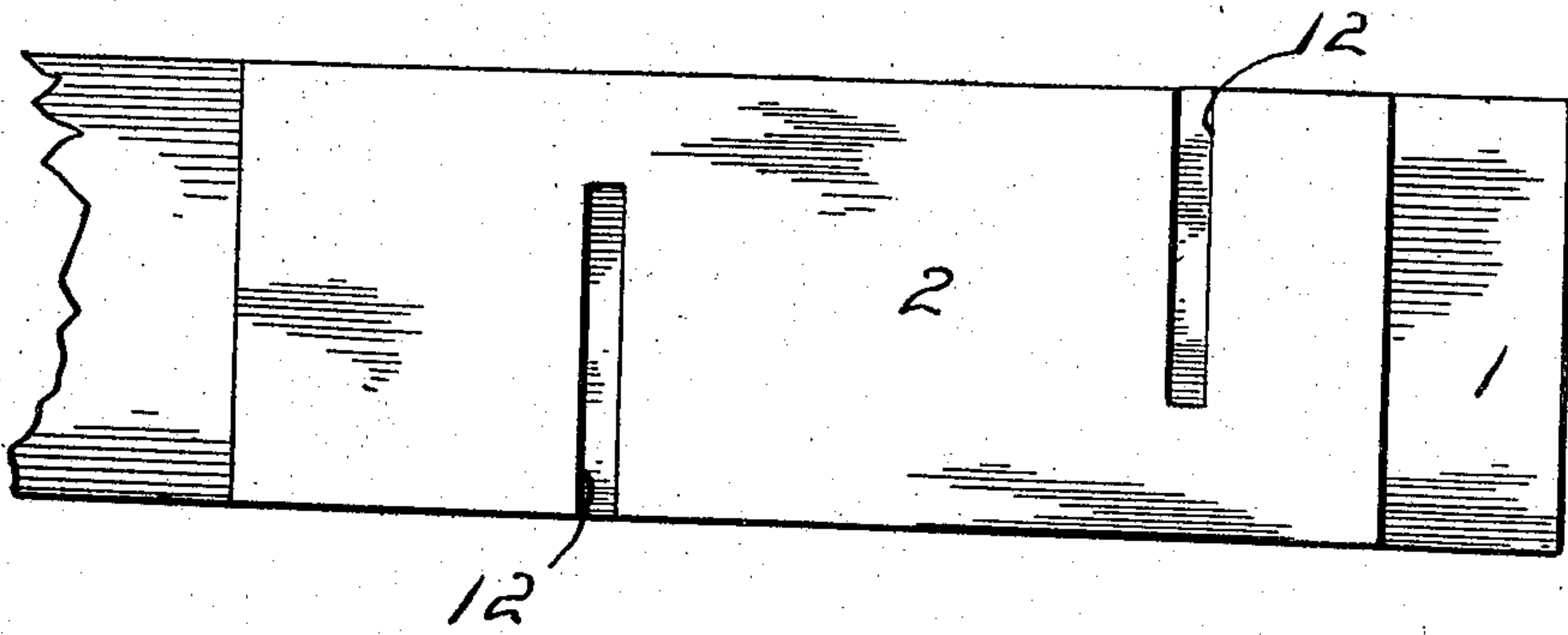


Fig. 5.

Witnesses

J. C. Simpson
M. H. Miller

Inventor

William Wallace.

By

Charles Chandler

Attorney

UNITED STATES PATENT OFFICE.

WILLIAM WALLACE, OF SYDNEY, NOVA SCOTIA, CANADA.

RAIL-FASTENER.

No. 911,790.

Specification of Letters Patent.

Patented Feb. 9, 1909.

Application filed July 15, 1908. Serial No. 443,695.

To all whom it may concern:

Be it known that I, WILLIAM WALLACE, a subject of the King of Great Britain, residing at Sydney, in the Province of Nova Scotia, Dominion of Canada, have invented certain new and useful Improvements in Rail-Fasteners; 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.

This invention has relation to combined tie-plates, rail braces or fasteners and spikes, the tie-plates being employed on the regular ties or sleepers to assist in keeping the rails from spreading, the function of the fasteners being to maintain the rails in position, while the spikes serve to secure the braces on the sleeper and tie-plate so that they may efficiently perform the functions for which they are designed.

It is the purpose of the invention to provide improvements that will at once simplify the construction and mode of operation of the parts mentioned and render them more secure and certain in their use.

The nature of the invention is fully and clearly illustrated in the accompanying drawings forming a part of this specification, and while I have shown an embodiment of the improvements that are now considered by me as being the best in form and arrangement, it is recognized that changes of a mechanical character may be made in the form and arrangement of parts and features without departing from the substantial nature and spirit of the invention.

Of the said drawings, Figure 1 is a side view of the invention, the railway rails forming the track, being represented in section. Fig. 2 is a plan view of the same. Fig. 3 is an end view. Fig. 4 is a sectional view taken in the plane of the track just outside of the outer spike. Fig. 5 is a plan view of one end of a tie and tie-plate, the other parts of the device being removed.

Similar characters of reference designate similar parts or features wherever they occur.

In the embodiment of my invention, as shown in the drawings, I employ an ordinary sleeper or tie 1 having a flat upper face upon which the tie-plate 2, consisting of a flat strip of metal rests. The said tie-plate need not be quite as long as the tie 1, but will ex-

tend out far enough at each end to form a seat for the rails 3.

The numeral 4 designates the outside rail-braces or hold-fasts, the outer portions of which rest upon the upper surface of the tie 1, and said rail-braces are offset upwardly at 5, to extend over and bear upon the upper surface of the tie-plate to hold it down, and the inner end being provided with a vertical or upstanding flange 6, which bears against the outside surface of the web of the rail 3, and may extend up under the ball of said rail.

The numeral 7 designates the inside rail brace which is constructed in like manner to the outside brace just described, excepting that no portion of its base rests upon the tie 1, when a tie-plate is used, and hence it is not provided with an upward offset 5.

The spikes by which the rail-braces are secured in place on the tie and tie-plate are designated by the numeral 8. The said spikes have vertically flattened heads and similarly-formed shanks 9. The heads of the spikes are notched on one edge, as at 10, which notches are adapted to receive therein the adjacent sides of the rail-braces when the heads of the spikes are projected vertically through the slots 11 formed in the bases of the rail-braces, the portion of the head of the spike at the bottom of the notch 10 extending into a slot 12 formed in the tie-plate, while the shank 9 is driven into the tie 1. The said shank 9 may be formed in any known manner to prevent its withdrawal. After the spikes are driven, as described, the notch 10 will be in the same horizontal plane with the base of the rail-brace, which will allow the said brace-plate to be moved laterally in a horizontal plane, until the said adjacent side of the base of the rail-brace enters the notch 10 of the head of the spike, when a pin 13 may be driven at its inner end into a hole 14 of the web-flanges 6 between the back of the head of the spike and a rib 15, or similar feature formed on the upper surface of the base-flange to keep the rail-brace from being unintentionally moved back and thus disconnected from the head of the spike.

Under the construction shown and described, the rails will be held against spreading or being moved toward each other as well as from rising or being lifted from their

seats, and while the tie-plate contributes materially to the prevention of the rails being moved laterally, it is obvious that the said tie-plate may be entirely dispensed with and
 5 the other parts of the invention employed in connection with the sleeper 1 with great efficiency and without modification excepting such as would be naturally suggested to an ordinary mechanic.

10 To remove the rails from the tie and tie-plate it will be necessary only to withdraw the pins 13 when the base-flanges or hold-fasts may be moved back horizontally to their original position disengaging them from
 15 the notches in the head of the spikes from which latter the rail-braces and rails may be lifted without withdrawing the spikes from the ties, and it is obvious that the said rail-braces and rail may be renewed and replaced
 20 or replaced without renewal by a reverse operation.

The tie-plate 2 may be slotted from opposite sides for the reception of the different spike-heads, and the rail-braces driven laterally into the notches in the spike-heads
 25 accordingly, before the fastening pins 13 are inserted. This construction will prevent the tie-plate from working laterally out of place on the sleeper or tie 1.

30 It is essential, as will be noted, that the head only of the spike need be flattened vertically as explained.

What is claimed is:

1. The combination, with the tie, the
 25 slotted tie-plate and slotted rail-braces, of the spikes having vertically flattened heads engaged in said slots and notched at one

edge, the adjacent sides of the rail-braces being forced laterally within the notches of the spike-heads.

2. The combination, with the tie, the
 40 slotted tie-plate and slotted rail-braces, of the spikes having vertically flattened heads engaged in said slots and notched at one edge, the adjacent sides of the rail-braces
 45 being forced laterally within the notches of the spike-heads, and removable securing devices connected with the rail-braces back of the heads of the spike-heads.

3. A rail-brace for railway rails, having a
 50 laterally slotted base, combined with a spike having a vertically flattened head adapted to be received through the said slot, and a notch formed in one edge of the head adapting the adjacent side of the brace to be
 55 moved laterally into said notch.

4. The combination, with the tie-plate slotted from its edges inward, of the spike having a vertically flattened head and a rib
 60 spaced from the head adapted to be received laterally in either of said slots.

5. The combination, with the tie-plate slotted from its edges inward, of the spike having a vertically flattened head and a rib
 65 spaced from the head adapted to be received laterally in either of said slots, the slots for the heads of the different spikes opening on opposite edges of the tie-plate.

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

WILLIAM WALLACE.

Witnesses:

JOHN McRAE,
 FRED PETERS.