

J. BRADLEY.
RAIL RETAINER.
APPLICATION FILED MAY 20, 1909.

955,315.

Patented Apr. 19, 1910.

2 SHEETS—SHEET 1.

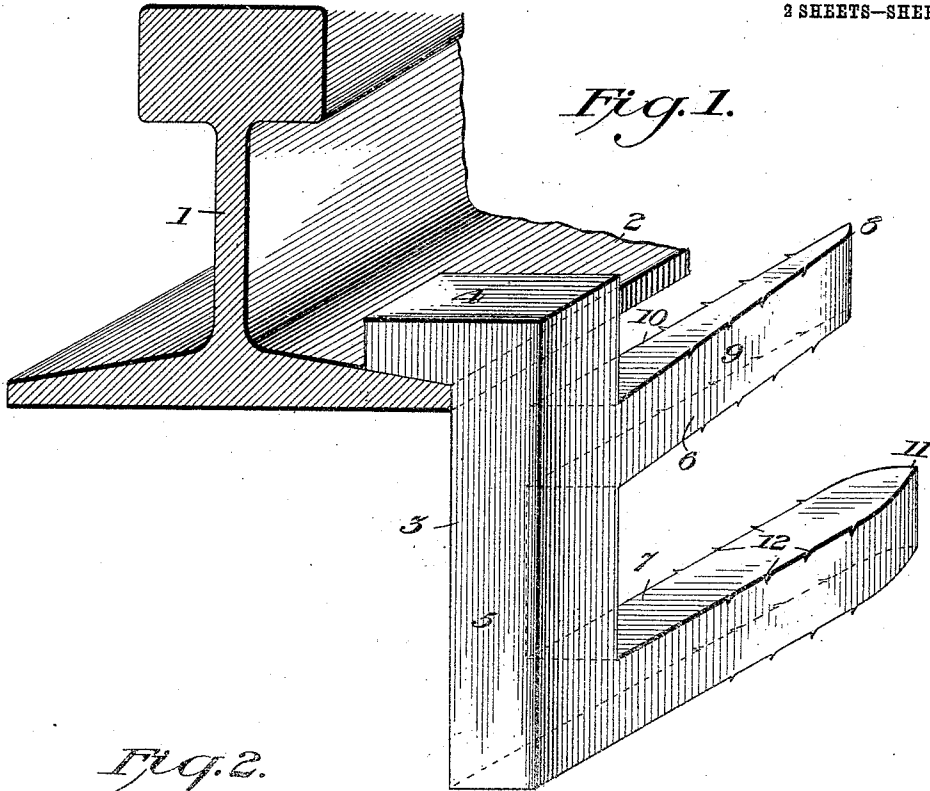
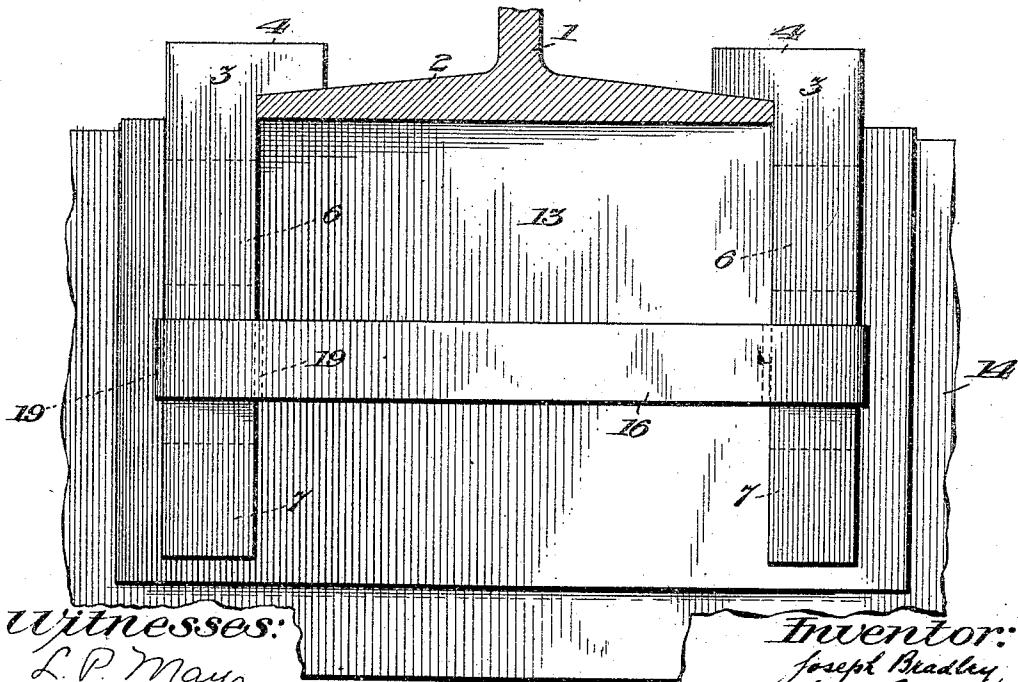


Fig. 2.



Witnesses:

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H. M. Barton

Inventor:

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2 SHEETS—SHEET 2.

Fig. 3.

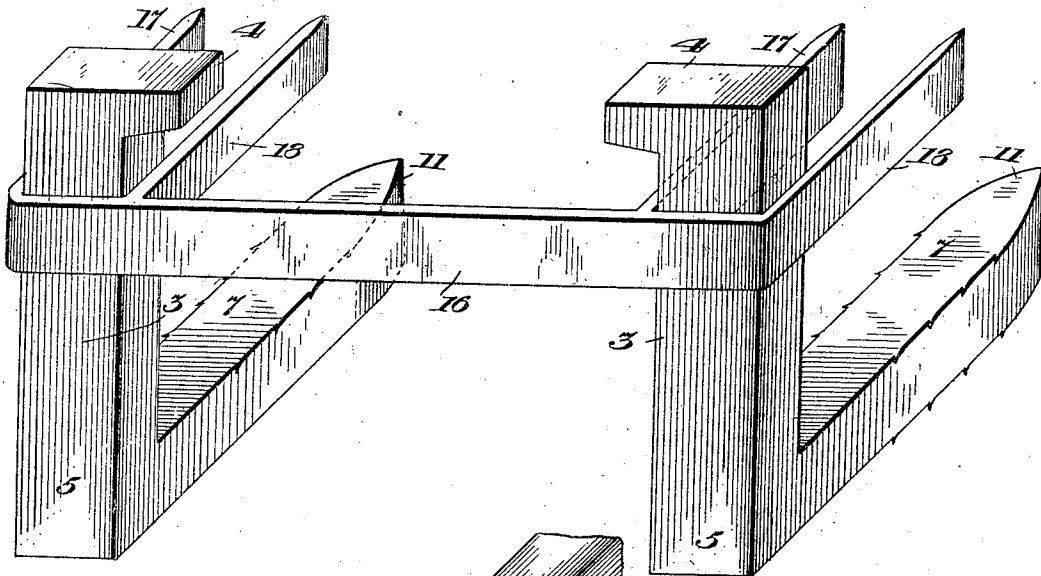
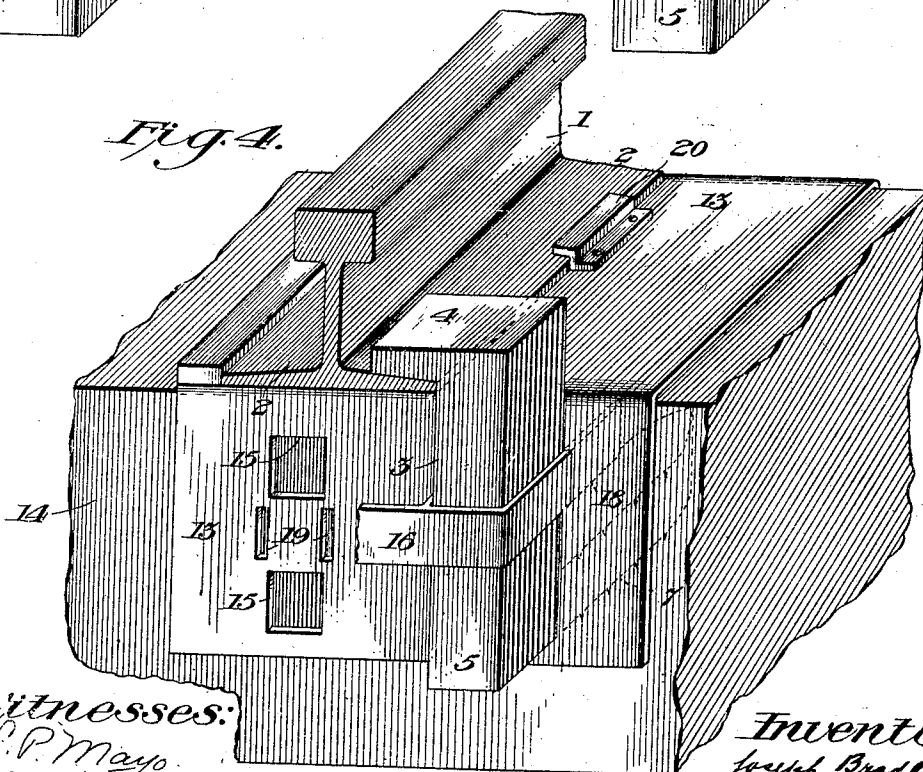


Fig. 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

JOSEPH BRADLEY, OF LOS ANGELES, CALIFORNIA.

RAIL-RETAINER.

Specification of Letters Patent. **Patented Apr. 19, 1910.**

955,315.

Application filed May 20, 1909. Serial No. 497,164.

To all whom it may concern:

Be it known that I, JOSEPH BRADLEY, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Rail-Retainers, of which the following is a specification.

This invention relates to a railroad spike and has particular reference to a retaining means for the flanges of rails which is designed to prevent the ingress of water and the eventual rotting of the tie by reason of the crevices made by the disruption of the wood fiber when the spike is driven into the tie.

One of the objects of this invention is to provide a spike for rails which cannot be withdrawn by lateral pressure of weighty trains and engines, but which may readily be withdrawn by a workman without coming in contact with the base or flange of the rail.

Another object of this invention is to provide a spike for the flanges of rails which has a double engagement with the tie and which is arranged to be driven in transversely thereof instead of vertically as has hitherto been the case.

A further object of this invention is to provide in combination with a rail spike a tie-plate and a spike retainer by means of which the rail is securely held in place making it impossible for the same to spread, as is frequently the case with the present method of fastening the rails, and increasing to a considerable extent the life of the tie.

With these and other objects in view, this invention consists of the features, details of construction and combination of parts as will be described in connection with the accompanying drawings, and then be more particularly pointed out in the claims.

In the drawings, Figure 1, is a perspective view showing a fragment of a rail, and the rail spike as applied. Fig. 2, is a side elevation showing a tie plate, the spikes in position engaging the flanges of a rail, and a spike tie or retainer. Fig. 3, is a perspective view showing the spikes and the retainer as applied thereto, and Fig. 4, is a perspective view illustrating the fragment of a tie, the tie plate mounted thereon, the rail flange retaining clip, the spike, and a fragment of the retainer.

Specifically referring to the drawings, 1, designates a rail provided with the usual flange 2.

3 is a rail retainer provided with a head 4, adapted to engage the flange 2, of the rail. Extending at right angles to the vertical axis of the body portion 5, of the retainer, are two spikes 6 and 7, for which the body portion 5, of the retainer forms a driving head. The spike 6, converges to a point 8, to facilitate its entry into the tie, and to insure a perfectly straight driving of the same into the tie, the outer surface 9, or that surface farthest from the rail flange, extends at an angle with respect to the inner surface 10, whereby in the driving of the spike the wedge side thereof causes the same to travel in a direct line and toward the rail flange. The spike 7, terminates in an acuminate edge 11, and the edges thereof as well as the edges of the spike 6, are preferably provided with barbs 12, to insure the hold of the spike in the fiber of the tie.

The retainer body 5, provided with the spikes 6 and 7 and the rail engaging head 4, offers a large driving surface to a hammer or sledge and the spikes made a part of the body of the retainer are readily driven into the tie laterally thereof whereby the head of the same engaging the flange of the rail remains intact and uninjured by the blows of the hammer or sledge used in the driving home of these spikes. A very close contact of the head of the spike is made possible with this spike and the lateral insertion of the same into the tie, instead of a vertical insertion, prevents any accidental working loose of the same by reason of excessive vibration and weights of the train. The entire retainer may only be removed for forcibly dislodging, and this may be done without damaging or mutilating the large driving surface by the instrument. By this construction it can never occur that the head of the spike is severed from the body when the removal of the same becomes necessary with the use of crow-bars and like tools, and a withdrawn or removed spike may be used over and over again with the same efficiency. To protect to a further degree against rotting of the tie by the atmospheric moisture and water entering the interstices of the tie, and also to insure the spike against rust and the scaling thereof, as well as to increase the rigidity of the rail and the spike, I provide

a tie plate 13, which is arranged to fit over the tie 14 for so much of the tie as is necessary for the accommodation of the rail. This tie plate 13 is provided with a series of openings 15 through which the spikes 6 and 7 are arranged to extend, while the body portion of the retainer abuts snugly against the walls of this tie plate 13. As shown in Fig. 3, the spike 6, shown in Fig. 1, may be omitted, and in that instance I provide a spike tie or band 16, which is provided at each end thereof with two sharpened fingers 17 and 18, arranged to extend through the openings 19 of the tie plate 13, and to hold firmly in position the upper part of the retainer from which the spike has been omitted. This spike tie or band connects both retainers and is arranged to be driven into the tie in the same manner as the spike.

On top of the tie plate 13, as seen in Fig. 4, is a rail flange engaging lip 20 which is welded or secured to the tie plate by rivets, and which is provided for the purpose of giving additional strength and solidity to the rails especially on curves where the greatest strain of a train is thrown. It also serves to prevent the spreading of the rails, and in use is adapted to be placed in that portion of the rail flange calculated to be subjected to the maximum weight and strain. This lip may be stamped out of the tie plate if desired, and one or more of the same may be used as found most expedient.

What I claim, is:

1. In combination with a tie, a plate mounted thereon and extending down either side thereof and provided with orifices, and a rail retainer having a head, and two spikes arranged to extend through the orifices in said plate.

2. In combination with a tie, a tie plate extending down either side thereof and provided with orifices, a rail retainer having a head and two spikes arranged to extend

through the orifices in said plate and laterally into said tie.

3. In combination with a tie, a tie plate thereon and provided with lateral orifices, a rail retainer having a rail-flange engaging head, two laterally tie engaging spikes arranged to extend through said orifices, and a tie-engaging band for said spikes.

4. A retainer for rails comprising a body portion having a rail engaging head and two spikes extending at right angles thereto, and a spike band engaging said retainer and the tie to hold said retainer in place.

5. A retainer for rails comprising a body portion having a rail-engaging head and a spike extending at right angles thereto, and a spike band arranged to engage the tie and said body portion approximately centrally thereof to hold said retainer in place.

6. A retainer for rails comprising an L-shaped body portion, one portion of said L constituting a spike arranged to engage the tie, and the other portion of said L being provided with a head arranged to engage the rail flange, said head extending at right angles to the vertical axis of said body, in combination with a tie plate extending down either side of the tie, and provided with an orifice through which the spike portion of said L is arranged to extend.

7. In combination with a tie, a plate mounted thereon having rail-flange engaging lips, said plate extending down either side of the tie and provided with orifices, and a rail retainer having a head, and two spikes arranged to extend through the orifices in said plate.

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

JOSEPH BRADLEY.

Witnesses:

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GERTRUDE M. CALDWELL.