R. S. ULLRICH.

RAILROAD TIE AND FASTENER.

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952,591.

Patented Mar. 22, 1910.

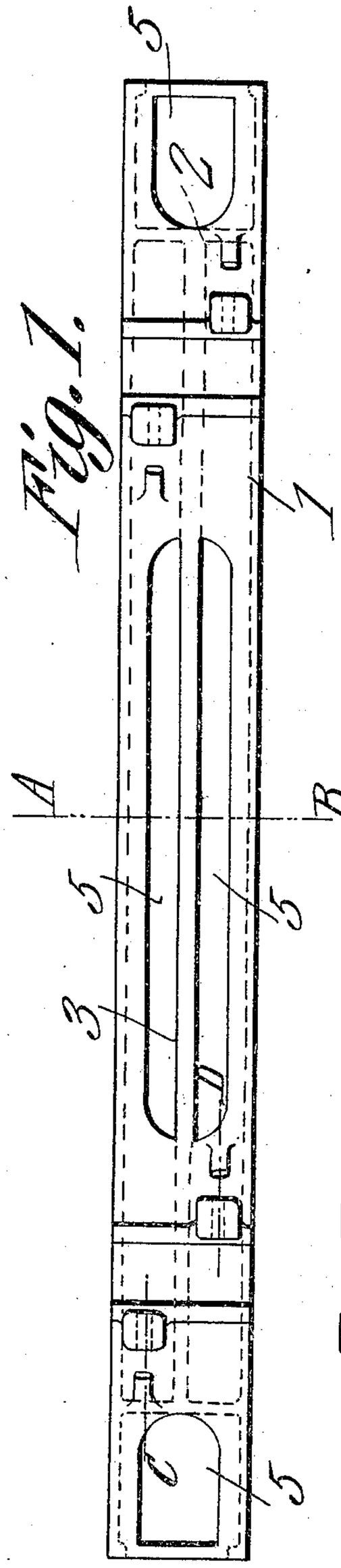

Fig. 1.

Fig. 2.

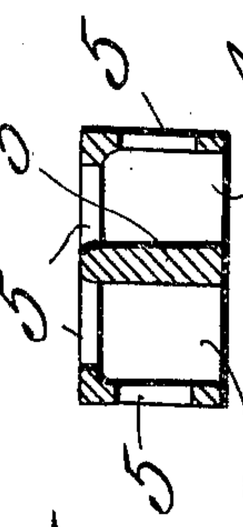

Fig. 4.

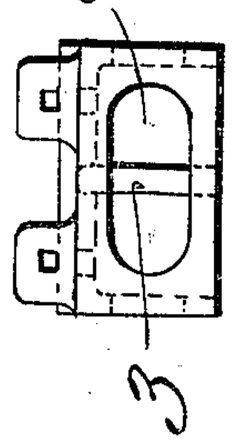

Fig. 3.

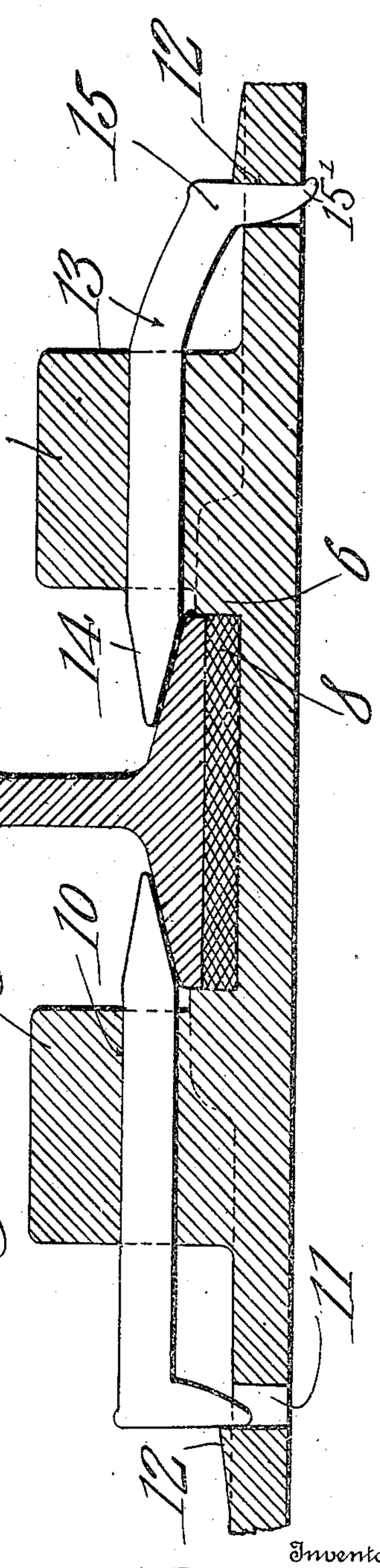

Fig. 5.

Witnesses

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REUBEN S. ULLRICH, OF LEWISTOWN, PENNSYLVANIA.

RAILROAD-TIE AND FASTENER.

952,591. Specification of Letters Patent. Patented Mar. 22, 1910.

Application filed October 6, 1909. Serial No. 521,273.

To all whom it may concern:

Be it known that I, REUBEN S. ULLRICH, a citizen of the United States, residing at Lewistown, in the county of Mifflin and State of Pennsylvania, have invented a new and useful Railroad-Tie and Fastener, of which the following is a specification.

This invention relates to railroad ties and to fasteners for securing rails thereto.

One of the objects of the invention is to provide an all metal tie which is of durable construction and which has novel means combined therewith whereby rails may be securely fastened thereto.

A further object is to provide a fastener which can be readily applied to the tie and which will not become displaced as a result of the jolting to which the parts are subjected by trains passing thereover.

With these and other objects in view, the invention consists in certain novel details of construction and the combination of parts hereinafter more fully described and pointed out in the claims.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings:—Figure 1 is a plan view of a tie constructed in accordance with the present invention, the rails being removed therefrom. Fig. 2 is a side elevation of one end portion of the tie. Fig. 3 is an end elevation of the tie. Fig. 4 is a transverse section on the line A—B of Fig. 1. Fig. 5 is an enlarged longitudinal section through the upper portion of a tie, said section being taken on the line C—D of Fig. 1, and showing a rail in position upon the tie, said rail being engaged by the fastener.

Referring to the figures by characters of reference, 1 designates an inverted trough like metallic tie provided, near each end, with a transverse partition 2, the two partitions being connected at their centers, by a longitudinally extending web or partition 3 forming spaced channels 4 at opposite sides thereof. The side walls of the tie are cut away between the transverse partitions 2 and also between said partitions and the end of the tie and openings are also preferably formed in the top of the tie adjacent the center thereof and also adjacent its ends, these openings being provided for the purpose of reducing the metal necessary in forming the tie and also enabling it to be better engaged by the material constituting the road bed. The various openings in the top and wall of the tie have been indicated at 5.

Transversely extending ribs 6 are formed upon the top of the tie adjacent each end thereof, these ribs being spaced apart a distance equal to the width of the base of a rail 7, the adjoining faces or shoulders of the two ribs being parallel and perpendicular to the top of the tie. The space between the two shoulders is designed to be partly filled with a cushion 8 preferably formed of folds of canvas or other fabric.

A lug 9 is formed integral with the tie adjacent each of the ribs 6, each lug being formed with an opening 10 extending in the direction of the length of the tie. The lugs upon the two ribs of each pair are disposed adjacent opposite sides of the tie as shown especially in Figs. 1 and 3.

An opening 11 is formed in the top of the tie body between each of the lugs 9 and the adjoining ends of said tie body, there being an inclined projection 12 adjacent each of these openings 11, the upper face of said projection being inclined upwardly in the direction of the stud 9.

The fastening devices used for the purpose of securing rails to the tie consist of ordinary spikes 13, the tapered end 14 of each spike constituting the rail engaging device while the head 15 thereof constitutes means for engaging the tie body for the purpose of holding the spike against longitudinal displacement.

When it is desired to secure a rail upon the tie herein described, said rail is placed upon the cushion 8 and a spike 13 is driven longitudinally through the opening 10 in one of the lugs 9. The pointed end of the spike is thus moved into contact with the inclined upper face of one of the base flanges of the rail 7 and is driven therealong so as to cause the head 15 to ride upwardly upon the inclined face of the projection 12. After the head has passed over the projection and assumed position above the opening 11, the spike can be driven downward so as to force the head into the opening. After the spike has been placed in this position the lower end of the head can be bent back under the tie as shown at 15′. Another spike can then be inserted into and driven through the opposed lug 9 and secured in the same manner.

It will be seen that by providing fasten-

ing devices such as herein described it becomes possible to secure a rail in position without the necessity of employing a multiplicity of parts. Moreover after the head 15 has been forced into the opening 11 and bent as at 15′, it becomes impossible for the fastening device to become displaced and therefore the rail is held securely at all times and under all conditions. Inasmuch as the rail is formed in a single piece of metal and only two fasteners are utilized in connection with each rail upon the tie, it will be seen that there is no danger of any of the parts becoming displaced and both the tie and fasteners are capable of withstanding considerable vibration without loosening the rail.

It is of course to be understood that various changes may be made in the construction and arrangement of the parts without departing from the spirit or sacrificing the advantages of the invention.

What is claimed is:—

1. The combination with a tie body having transverse rail retaining ribs, of upstanding apertured lugs upon the body and adjacent the ribs and metallic fastening devices shiftable longitudinally within the apertures and into engagement with a rail, said devices having heads, there being apertures in the tie body for the reception of the heads.

2. The combination with a tie body having upstanding apertured lugs and apertures in the top of the body and adjacent the lugs, of rail fastening devices each including a spike movable within an apertured lug, there being a head at one end of the spike and shiftable into the aperture in the tie body, the other end of said spike being tapered and constituting rail engaging means.

3. The combination with a metallic railway tie having transverse rail receiving ribs and upstanding apertured lugs adjacent the ribs, there being apertures within the tie and adjacent the lugs, of a fastener shiftable longitudinally through each lug, said fastener having a tapered rail engaging end and a head at its other end, said head being shiftable into the aperture in the tie body to hold the device in engagement with the rail.

4. The combination with a metallic railway tie having transversely extending spaced ribs, an apertured lug upstanding from each rib, there being an aperture within the tie adjacent each lug and an inclined projection adjacent the aperture, of a rail fastener comprising a spike having a tapered rail engaging end and a head at its other end movable along the projection and into the aperture, said spike being shiftable within the apertured lug.

5. A metallic railway tie having transversely extending rail retaining ribs, an apertured lug upstanding from the tie adjacent each rib, there being an aperture within the tie adjacent each lug and an inclined projection adjacent each aperture, a rail fastener insertible through the apertured lug and having a tapered rail engaging end and a head upon its other end, said head being shiftable over the inclined projection and into the apertured tie, and a cushion mounted upon the tie and interposed between the ribs.

6. The combination with an apertured metallic railway tie, and apertured projections on the tie, of rail engaging spikes extending through said projections, the apertures in the tie being arranged to receive the heads of the spikes.

7. The combination with a metallic railway tie having an opening in the top thereof and an apertured lug upstanding from the tie adjacent the opening, there being an inclined projection adjacent the said opening, of a metallic rail fastener insertible through the apertured lug and having a tapered rail engaging end, there being a head upon its other end, said head being shiftable over the inclined projection and into the apertured tie, the lower end of the head being bent under one wall of the aperture.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

REUBEN S. ULLRICH.

Witnesses:
ALVEY A. KIRK,
RITZ C. MCCAFFERTY.