W. LEWIS.

RAIL SHOE.

APPLICATION FILED DEC. 29, 1914.

1,168,083.

Patented Jan. 11, 1916.

2 SHEETS—SHEET 1.

Fig. 1.

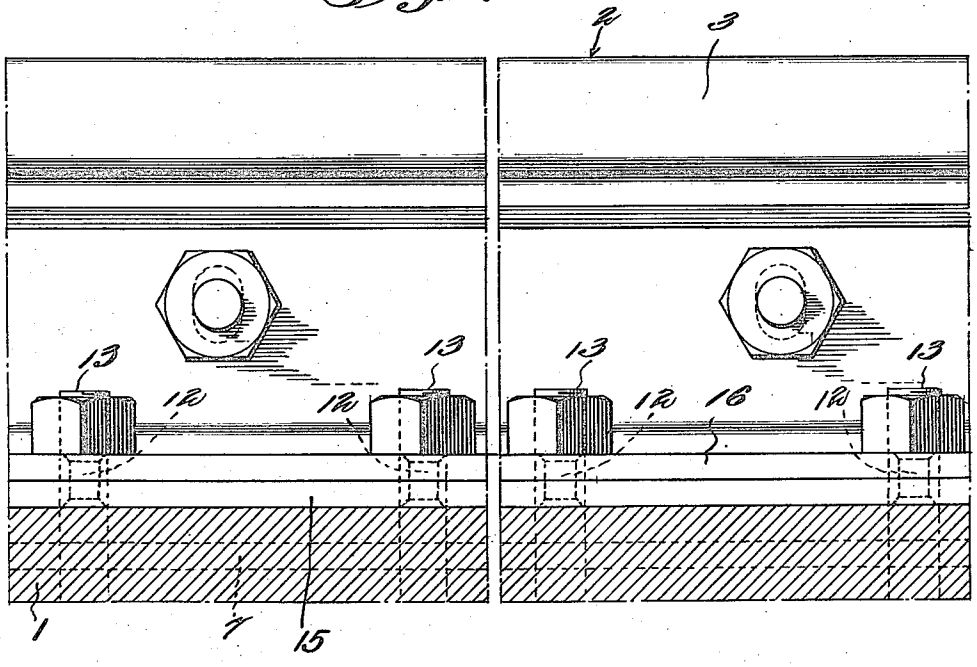
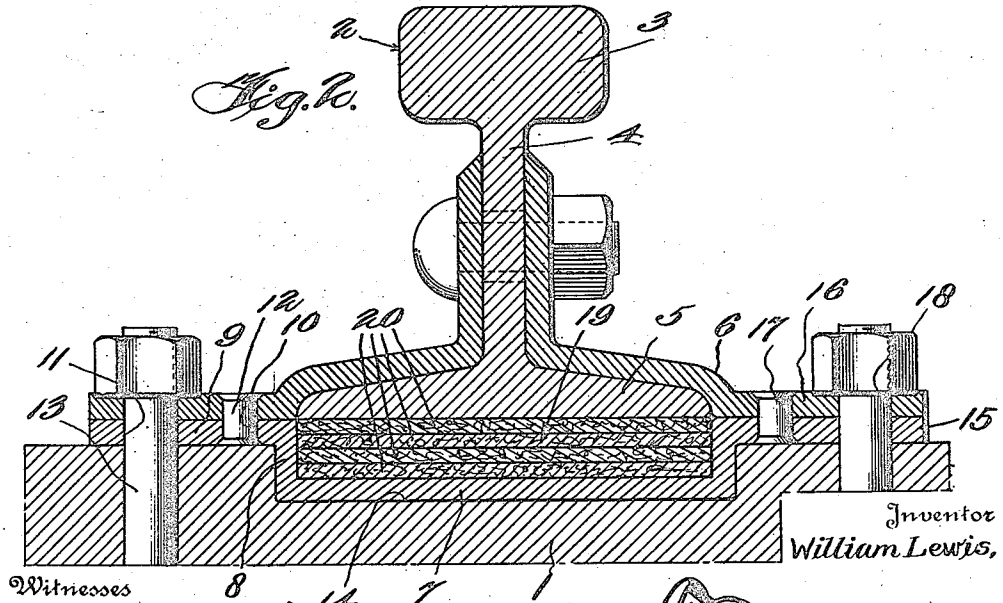


Fig. 2.



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2 SHEETS—SHEET 2.

Fig. 3.

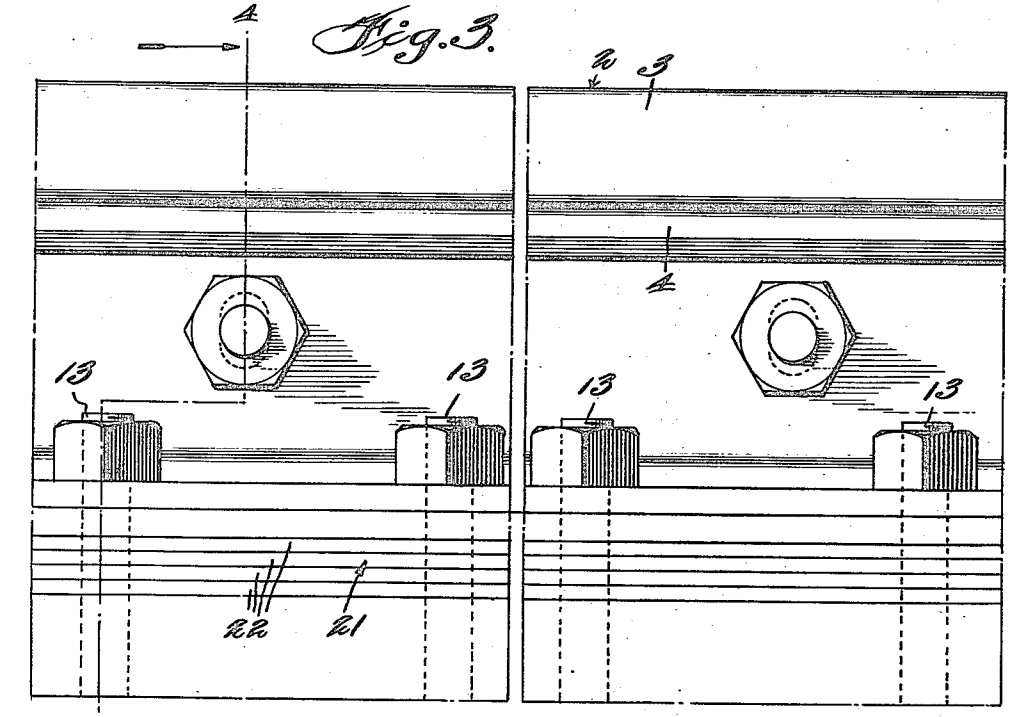
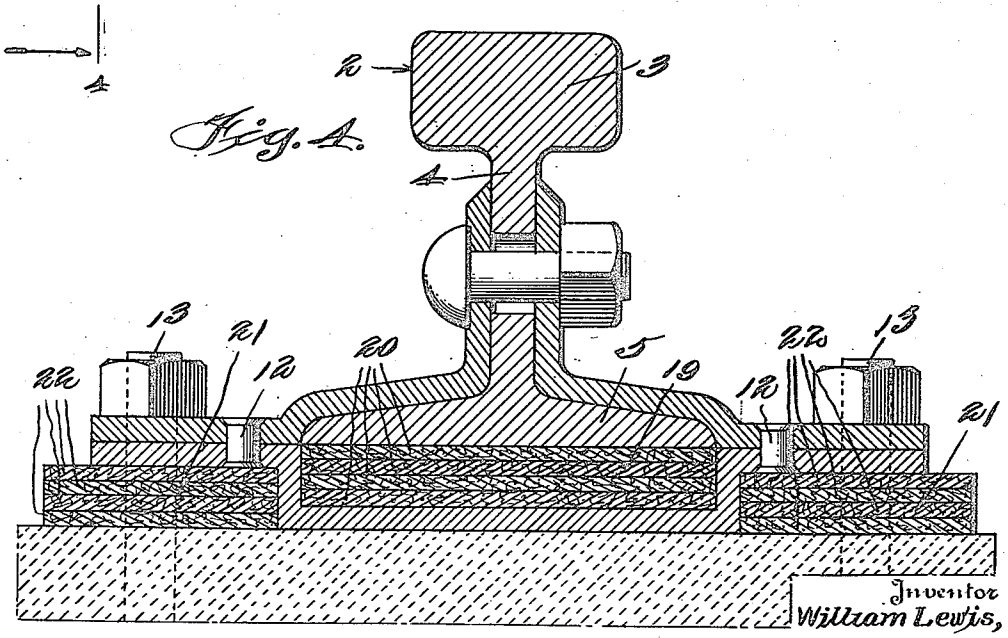


Fig. 4.



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UNITED STATES PATENT OFFICE.

WILLIAM LEWIS, OF EAST CHICAGO, INDIANA.

RAIL-SHOE.

1,168,083. Specification of Letters Patent. Patented Jan. 11, 1916.

Application filed December 29, 1914. Serial No. 879,544.

To all whom it may concern:

Be it known that I, WILLIAM LEWIS, a citizen of the United States, residing at East Chicago, in the county of Lake and State of Indiana, have invented certain new and useful Improvements in Rail-Shoes; 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 relates to new and useful improvements in rail shoes and has for its principal object to provide a shoe for railroad rails which is particularly adapted to prevent rails from becoming displaced thereby causing the derailment of trains.

Another object of the invention is to provide a device which will enable the railroad to use rails of lighter weight than is required in the present day method.

A further object of the invention is to provide a cushioning device for the rails which will effectively remove much of the vibration on the rails and ties and thereby lengthen the life of both the track and the rolling stock.

A still further object of the invention is to provide a rail shoe which is continuous throughout the entire length of the rail, thereby preventing the rail from becoming displaced even though it should be broken.

With these and other objects in view, the invention consists in the novel combination and arrangement of parts which will be fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a view in elevation of a portion of a shoe constructed in accordance with this invention, showing a portion of the tie in section, Fig. 2 is a transverse sectional view of Fig. 1, Fig. 3 is a view similar to Fig. 1 showing the device adapted for use on a concrete tie, and Fig. 4 is a transverse sectional view of Fig. 3.

Referring to the drawings by characters of reference, the numeral 1 designates a rail tie while the numeral 2 designates as an entirety the railroad rail.. This rail comprises the usual head 3, web 4 and flange 5. The shoe which is designated generally by the numeral 6 is shown in place and will be hereinafter more fully described.

The shoe 6 above mentioned comprises the base member 7 which is formed with the upstanding sides 8 to provide an elongated trough. The upper edges of these sides terminate in the angular extensions 9 which are formed with the apertures 10 and 11 respectively which are designed to receive rivets and bolts 12 and 13. The tie 1 is hollowed out as at 14 to receive the trough-like structure of the lower portion of the shoe and the flanges 9 are designed to rest on the upper surface of the tie as clearly illustrated in Fig. 2.

The upper portion of the shoe comprises the pair of angle bars 15 which are designed to engage the web and flange of the rail respectively, and these angle bars terminate in the flanges 16 which are provided respectively with the rivet receiving apertures 17 and bolt receiving apertures 18. These rivet and bolt receiving apertures are designed to aline with apertures 10 and 11 to receive the bolts 13 and rivets 12 above mentioned.

A suitable filling element designated generally by the numeral 19 is arranged to be placed within the trough like structure of the base member 7 and this filling element comprises a plurality of layers of canvas 20 which are designed to lie flush with the upper surfaces of the flanges 9 to form a seat for the rail.

In the modified form of the invention, the structure of the shoe is essentially the same as illustrated in Figs. 1 and 2 but the tie which is preferably of concrete in this form is not provided with the recess 14. In this form a suitable filler member designated generally by the numeral 21 comprising a plurality of layers of canvas 22 is placed under each of the flanges 9 and it will thus be seen that a double cushioning effect is provided which will materially reduce the vibration by the passage of traffic over the road. In this way it will be seen that the concrete tie may be made as nearly vibrationless or resilient as the wood tie since the double cushioning effect is provided for in this device.

It will be apparent from the foregoing that in use the shoe is first placed in the tie and the rail is then set upon the filler 19. The upper portion of the shoe is then put in position and the rivets 12 are then driven into place and it will be apparent that the whole will be firmly locked together. The bolts 13 are then passed through their respective apertures in the flanges 9 and 16 and through their apertures in the tie where-

upon the nuts are placed into position on the bolts and the whole tightly clamped down in place. It will thus be seen that a particularly strong and durable rail shoe is provided which will enable the railway companies to use a rail of much lighter weight than is ordinarily required and also the rails will be effectively cushioned, thus relieving much of the vibration from the rolling stock.

While in the foregoing there has been shown and described the preferred embodiment of this invention, it is to be understood that such changes may be made in the combination and arrangement of parts as will fall within the spirit and scope of the invention as defined in the appended claim.

What is claimed is:

A rail shoe of the character described including a base member, said base member being substantially U-shaped in cross section and forming a trough, flanges formed on the upper edges of the vertical walls of the U-shaped member and extending outwardly, said body portion of the U-shaped member adapted to rest within a recess of a tie, a filler member arranged to fill the space between the upper edges of the vertical walls of the U-shaped member and the bottom, said filler member being formed of a relative soft pliable and resilient material, a rail engaging member comprising a web engaging portion, a flange engaging portion formed on the lower terminal of said web engaging portion, said flange engaging portion having its outer end curved downwardly and outwardly to conform to the configuration of a flange of a rail, the last mentioned outwardly bent portion of the flange adapted to rest on the upper face of the flange of the U-shaped member, means placed through the flange of the U-shaped member and the flanges for firmly holding a rail therebetween.

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

WILLIAM LEWIS.

Witnesses:
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A. OTTENHEIMER.