

March 1, 1927.

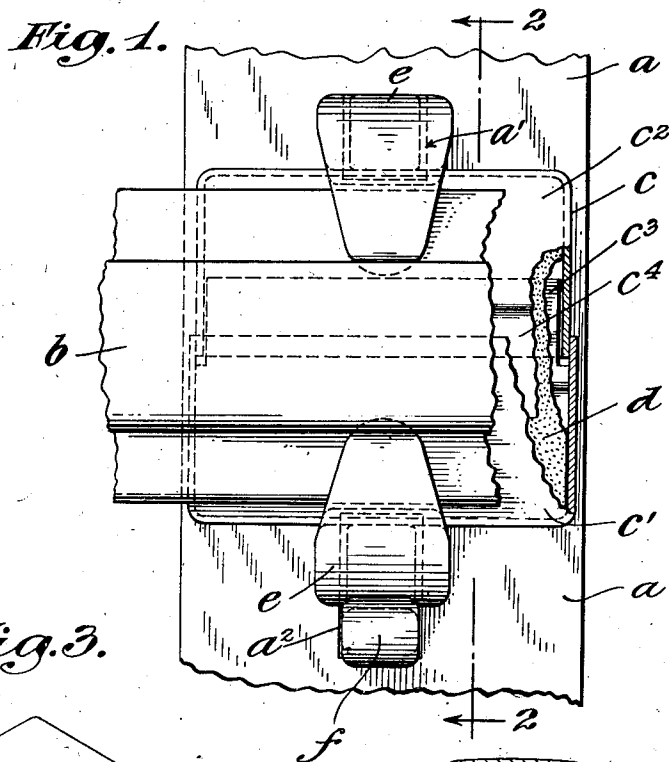
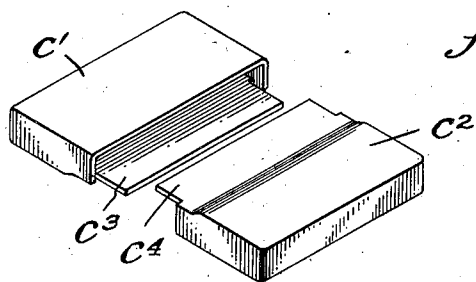
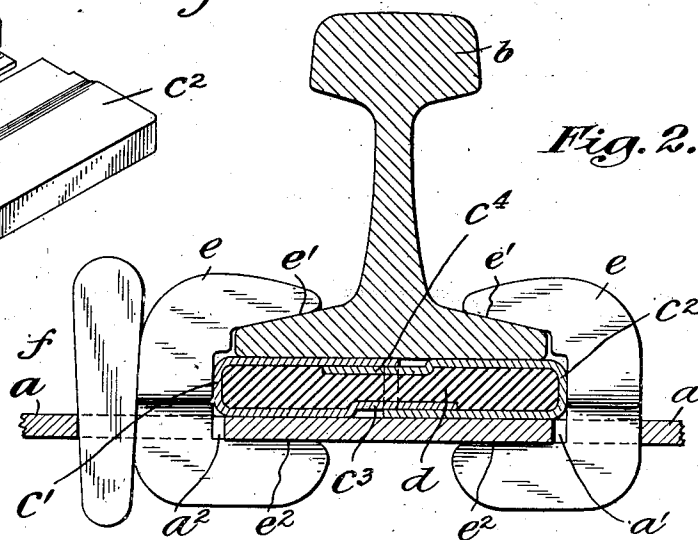
1,619,028

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SHOCK INSULATED RAIL TRACK

Filed Aug. 23, 1926

3 Sheets-Sheet 1



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Fig. 4.

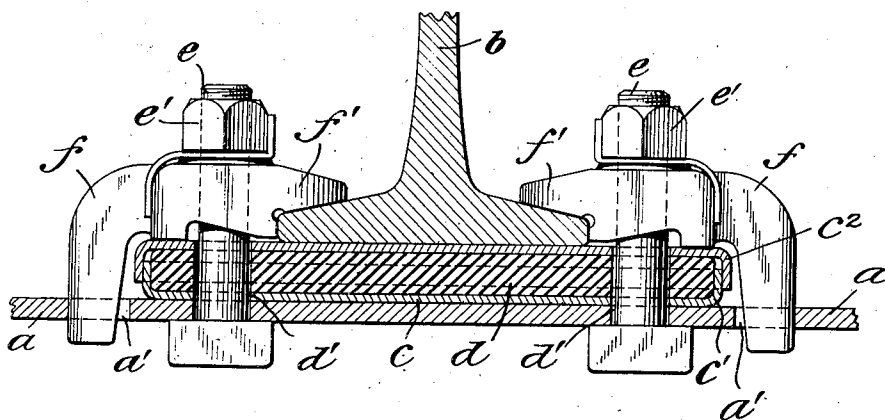
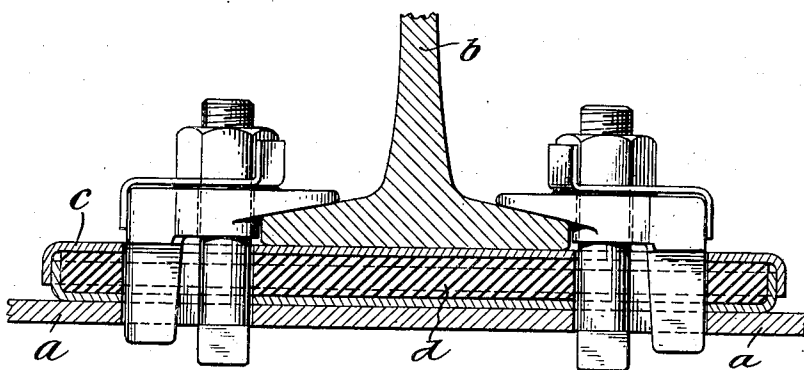


Fig. 5.



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Fig. 6.

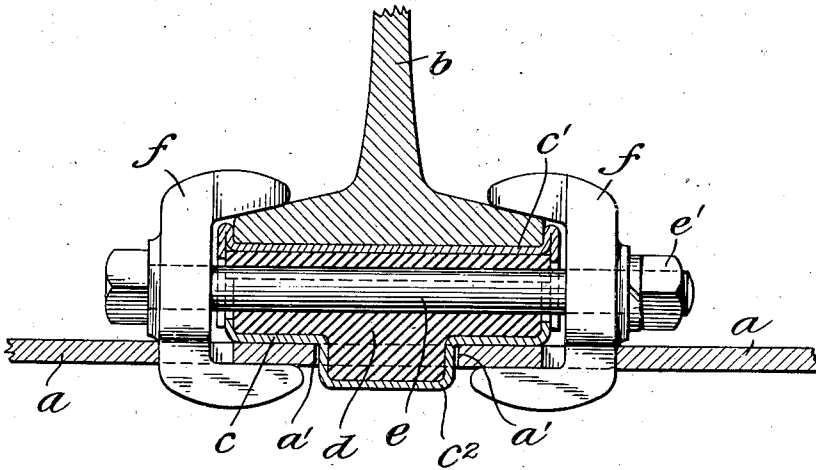
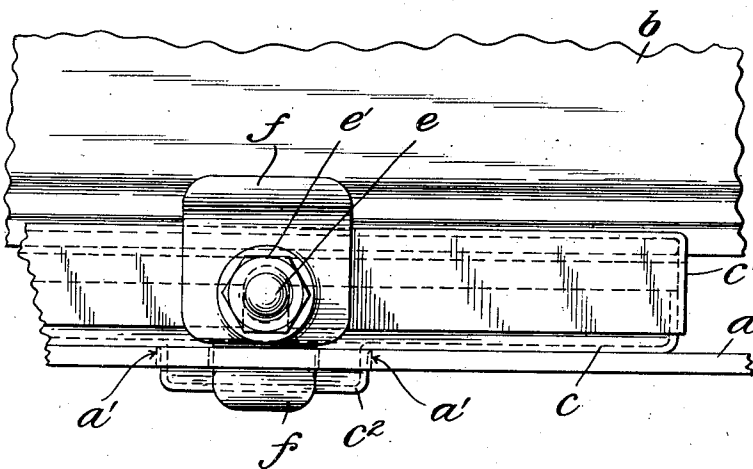


Fig. 7.



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Patented Mar. 1, 1927.

UNITED STATES PATENT OFFICE.

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SHOCK-INSULATED RAIL TRACK.

Application filed August 23, 1926. Serial No. 130,858.

The present invention relates to the art of laying railroad rails upon ties and has for an object the provision of a mounting which will absorb the shocks of the rail and thus reduce the damage occasioned to the tie. Particularly in lines where concrete, slag, or pressed steel ties are used, this feature is of great importance, it being a well known fact that such ties are impractical because of the unyielding nature of the resulting construction. Other objects will appear as the description proceeds.

In carrying out the above noted object, a two part housing is provided upon which the rail rests and within which a yielding, non-metallic substance, such as rubber, is placed. A suitable means is provided for maintaining the rubber under compression and the entire enclosing structure prevents extreme distortion and rapid disintegration of the rubber, especially where soft rubber is used. More particularly, the present invention comprises providing a two part housing which has telescoping portions and in this manner compression in the rubber is set up by the telescoping of the respective housing portions.

Reference will now be had to the accompanying drawings for a more detailed description of the device, wherein:

Figure 1 is a plan view partly broken away and partly in section of one form of the invention.

Figure 2 is a section on the line 2—2 of Figure 1 and looking in the direction of the arrows.

Figure 3 is a perspective of the telescoping portions used in Figures 1 and 2.

Figure 4 is a section of a modified form of the invention.

Figure 5 is a section of another form of the invention.

Figure 6 is a section of still another form of the invention.

Figure 7 is a side elevation of the form of the invention shown in Figure 6.

In the drawings *a* represents a metal tie upon which a rail *b* is carried. Between the rail and tie, a housing *c* is provided in which is confined a block of yielding non-metallic and cushioning material *d*. A suitable means, hereinafter described, is provided for securing the rail to the tie and position-

ing the housing therebetween and this means may also be adapted to place the confined block under compression.

In Figures 1, 2 and 3 opposed telescoping housings *c'*, *c''* are provided and may be formed of stampings having projecting edges *c''*, *c'''* which telescope with the co-operating housing portions in assembling the device. The rail rests upon the housing and the shocks of the rail are cushioned through the housing and its cushioning element.

To secure the rail to the tie in a manner to set up compression on the housing, yoke shaped clamps *e* are provided and these yokes have jaws whose engaging faces converge inwardly along one jaw as at *e'* to conform to the slope of the top of the web of the rail the other jaw *e''* having a face to engage with the under side of the tie.

At either side of the rail apertures *a'* and *a''* are provided through which the clamps pass and aperture *a''* is sufficiently oversize to permit a wedge *f* to be inserted therein. Driving in the wedge causes the clamps to more tightly engage the rail and tie and thus secure the two in the manner desired.

In Figure 4 the housing *c* is of a different size and shape. It merely consists of two telescoping portions *c'* and *c''* with a block of cushioning material disposed within. Holes *d'* are formed in the housing, block and tie, and securing bolts *e* pass therethrough and serve to confine, between their heads and nuts *e'*, dogs *f*. The latter have shoulders *f'* which engage the rail and set up the desired compression when the nuts *e'* are taken up on the bolts. The tie *a* has apertures *a'* in which the ends of the dogs lie and tightening of the bolts and taps causes the rail to be more firmly confined between the dogs.

The modified form shown in Figure 5 is similar to Figure 4 except that both the bolt and dog lie within the same hole, the bolt head being T-shaped to engage the tie.

In Figures 6 and 7 the telescoping housing is of still a different shape. The upper portion is provided with a seat *c'* for the rail and the lower portion with a depressed portion *c''* which lies within an aperture *a'* in the tie. Transversely through the housing and cushioning element *d*, extends bolt *e* carrying yokes *f* which engage the rail and

tie and, when the nut *e'* is taken up on, set up the desired degree of compression through the housing.

It will be seen that in the foregoing description, structures have been set forth which provide a means of positively securing the rail to the tie and which further provide a means for cushioning the shocks transmitted from the rail to the tie.

While several forms have been described above, it is understood that many other modifications may be employed and the invention is not to be limited, except as defined by the appended claims.

What is claimed is:

1. In a cushioning device between a rail and tie, a separate housing, a block of rubber completely confined by the housing and means to exert a force transverse to the axis of the rail to secure the housing between the rail and tie.

2. In a cushioning device between a rail and tie, a housing comprising telescoping portions, a block of rubber completely confined by the housing, and means to exert a force transverse to the axis of the rail to secure the rail to the tie with the housing therebetween and vary the degree of telescoping of the portions, whereby the shocks from one to the other will be cushioned.

3. In a cushion device between a rail and tie, a housing comprising telescoping por-

tions, a block of rubber completely confined by the housing, means to secure the rail to the tie with the housing therebetween, a slot in the tie, and means associated with the slot for preventing lateral displacement of the rail.

4. In a cushion device between a rail and tie, a housing comprising telescoping portions, a block of rubber completely confined by the housing, means to secure the rail to the tie with the housing therebetween, a slot in the tie, and means associated with the slot including the securing means, for setting up compression in the rubber, securing the rail to the tie, and preventing the lateral displacement of the rail, all simultaneously.

5. In a cushion device between a rail and tie, a housing comprising telescoping portions, a block of rubber completely confined by the housing, means to secure the rail to the tie with the housing therebetween, and a slot in the tie, said securing means including means to engage the slot to prevent lateral displacement of the rail, whereby such condition is effected simultaneously with the setting up of compression in the housing and the securing of the rail to the tie.

This specification signed this 20 day of July A. D. 1926.

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