May 15, 1945. S. B. HASELTINE 2,375,918

RAILWAY CAR TRUCK

Filed May 3, 1943 2 Sheets-Sheet 1

Fig. 1

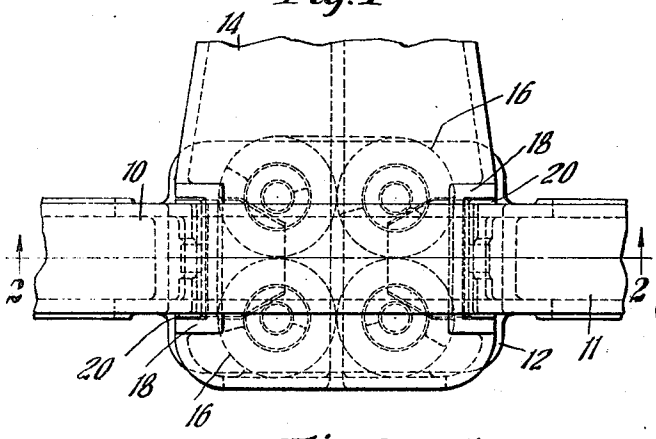


Fig. 3

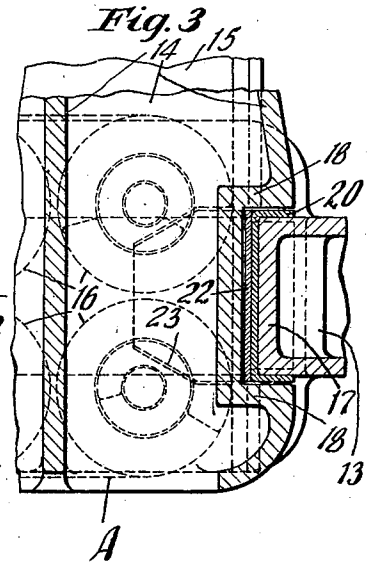


Fig. 2

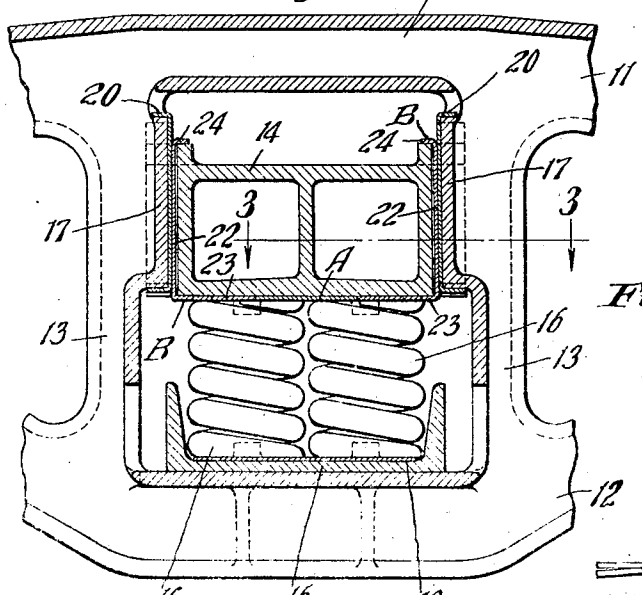


Fig. 5

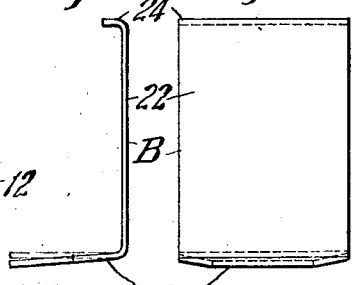


Fig. 6

Fig. 4

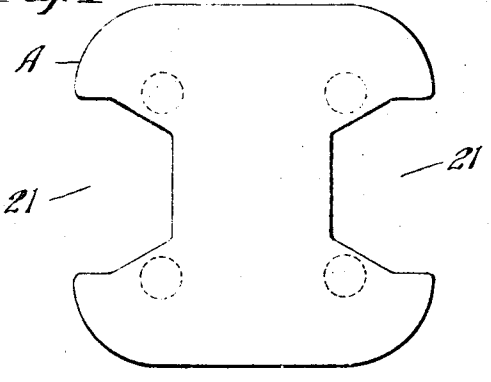
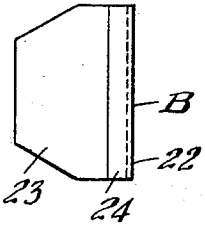


Fig. 7



Inventor
Stacy B. Haseltine
By Henry Fuchs.
Atty.

May 15, 1945. S. B. HASELTINE 2,375,918

RAILWAY CAR TRUCK

Filed May 3, 1943 2 Sheets-Sheet 2

Fig. 8

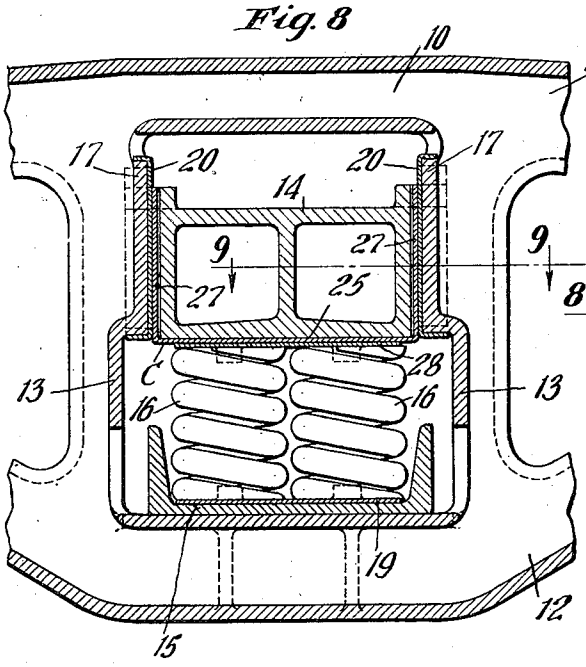


Fig. 9

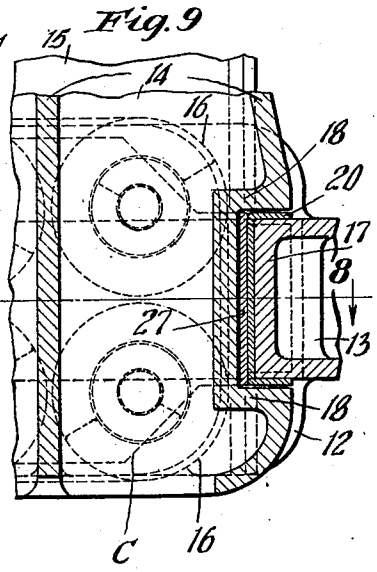


Fig. 10

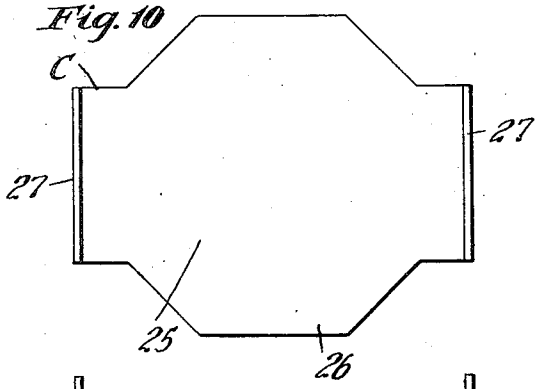


Fig. 11

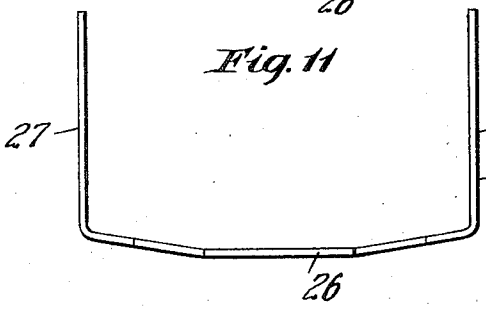
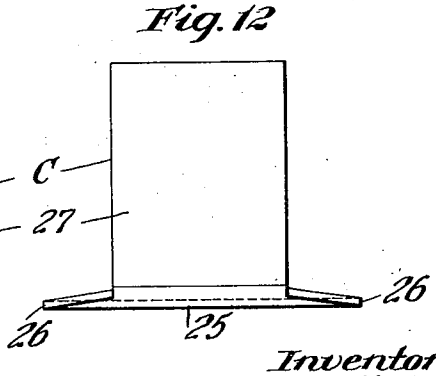


Fig. 12



Inventor
Stacy B. Haseltine
By Henry Fuchs.
Atty.

Patented May 15, 1945

2,375,918

UNITED STATES PATENT OFFICE

2,375,918

RAILWAY CAR TRUCK

Stacy B. Haseltine, La Grange, Ill., assignor to W. H. Miner, Inc., Chicago, Ill., a corporation of Delaware

Application May 3, 1943, Serial No. 485,426

6 Claims. (Cl. 105—197)

This invention relates to improvements in railway car trucks.

One object of the invention is to provide in a railway car truck simple and efficient snubbing means for dampening the action of the usual truck springs, thereby reducing the oscillations and vibrations of the springs to protect the car body and its lading against damage which would otherwise result.

A more specific object of the invention is to provide means for frictionally resisting relative upward and downward movement between the bolster of a railway car truck and the truck side frames to thereby dampen the action of the truck springs.

Other objects of the invention will more clearly appear from the description and claims hereinafter following.

In the drawings forming a part of this specification, Figure 1 is a top plan view of a portion of a railway car truck illustrating the preferred form of my improvements in connection therewith. Figure 2 is a vertical sectional view, corresponding substantially to the line 2—2 of Figure 1. Figure 3 is a horizontal sectional view, corresponding substantially to the line 3—3 of Figure 2. Figure 4 is a plan view of the upper follower plate for the truck springs employed in my improved design shown in Figures 1, 2, and 3. Figur 5 is an edge elevational view of a friction spring plate employed in the improved design shown in Figures 1, 2, and 3. Figure 6 is a side elevational view of Figure 5, looking from right to left in said last named figure. Figure 7 is a top plan view of Figure 5. Figure 8 is a view similar to Figure 2, illustrating another embodiment of the invention. Figure 9 is a horizontal sectional view, corresponding substantially to the line 9—9 of Figure 8. Figure 10 is a top plan view of a combined upper spring follower and friction member employed in connection with the embodiment of the invention illustrated in Figures 8 and 9. Figure 11 is an edge elevational view of the combined upper spring follower and friction member shown in Figure 10. Figure 12 is a side elevational view of Figure 10, looking from right to left in said figure.

In said drawings, 10 indicates one of the side frame members of a railway car truck. The side frame 10, as shown, is in the form of a casting and has top and bottom members 11 and 12 connected by spaced vertical sections 13—13 forming guides for the truck bolster. As will be understood by those skilled in this art, the truck includes two side frame members 10—10, a truck bolster 14, a channel-shaped spring plank 15, and truck springs 16—16. The opposite ends of the spring plank are supported on the bottom members 12—12 of the truck side frames 10—10, and the opposite ends of the bolster 14 are guided between the sections 13—13 and 13—13 of the truck side frames. As shown most clearly in Figures 1, 2, 3, 8 and 9, the sections 13—13 are inwardly offset near their upper ends to provide guides 17—17, which cooperate with guide seats 18—18 at the sides of the bolster 14. The truck springs are composed of two clusters of four springs each, as shown. The springs 16—16 at each side of the truck are supported on the spring plank 15, the usual spring follower plate 19 being interposed between the lower ends of the springs and the spring plank. The springs 16—16 yieldingly support the bolster 14, which, in turn, supports the car body by means of the usual body bolster.

As shown most clearly in Figures 2, 3, 8, and 9, the guides 17—17 are provided with the usual wear plates 20—20 which are fixed thereto as is common practice.

Referring first to the embodiment of the invention illustrated in Figures 1 to 7 inclusive, I provide a top follower plate A which is of the outline shown in Figure 4, having cut out portions or notches 21—21 at opposite sides thereof forming seats for a purpose hereinafter described. The plate A is interposed between the truck bolster 14 and upper ends of the springs 16—16 of the truck spring cluster, with the notches or seats disposed respectively at the right and left hand sides of the bolster 14, as viewed in Figure 2.

Friction plates B—B are disposed at opposite sides of the bolster 14, each plate B comprising a vertical section 22, as most clearly shown in Figures 5 and 6, an angular bottom flange section 23 and a right angular top flange 24. The top and bottom flanges 24 and 23 are formed by bending the top and bottom end portions of the plate B angularly to the plate, with the projecting flanges 23 and 24 thus produced at the same side of the vertical plate section 22. The flange 24 is at substantially right angles to the section 22 while the angle between the section 22 and the flange 23 is a little greater than a right angle, as clearly shown in Figure 5 in full lines. The flange 23 is of the outline shown in Figure 7 so as to fit within the corresponding seat 21 of the plate A. The friction plates B—B are made of spring metal, preferably steel, to provide the desired amount of resiliency.

The friction plates B—B are mounted at opposite sides of the bolster 14, as clearly shown in Figure 2, with the vertical sections 22 thereof interposed between the sides of the bolster 14 and the guides 17—17 of the truck side frame, the flanges 24—24 overhanging the top of the bolster, and the flanges 23—23 seated respectively in the notches or pockets 21—21 of the plate A. The vertical section 22 of each friction plate A is preferably of the same width as the corresponding wear plate 20 and bears thereon. As will be seen upon reference to Figure 1, the springs 16—16 of the spring cluster overlap the flanges 23—23 of the friction plates B—B and press these flanges tightly against the underneath face of the bolster 14, thus upwardly flexing these flanges as indicated in dotted lines in Figure 5. Due to this flexing action, the plate sections 22—22 are yieldingly pressed against the wear plates 20 of the bolster guides, thus producing frictional resistance to up and down movements of the bolster and thereby effectively snubbing the action of the truck springs.

Referring next to the embodiment of the invention illustrated in Figures 8 to 12 inclusive, the improved snubbing means differs from that shown in Figures 1 to 7 inclusive only in that a single, one piece friction member is employed in place of the three piece member A—B—B of Figures 1 to 7 inclusive. This one piece member, as shown most clearly in Figures 10, 11, and 12 comprises a plate C of resilient metal, preferably spring steel, having a horizontally disposed main body portion 25 of the outline shown in Figure 10, said main body portion being centrally offset or bowed downwardly, as indicated at 26. At opposite ends of the main body portion 25 of the plate are vertically disposed upstanding sections or flanges 27—27 which are narrower than the main body portion of the plate. These sections 27—27 are formed by bending the ends of the plate upwardly.

The main body portion 25 of the one piece friction member C is interposed between the underneath side of the bolster and the truck springs 16—16, with the sections or flanges 27—27 of said member C extending between the sides of the bolster and the guides 17—17, as clearly shown in Figure 8. A top spring follower plate 28 is preferably interposed between the upper ends of the springs 16—16 and the section 25 of the plate C. The springs 16—16 are normally under a certain amount of compression due to the weight of the car which is carried by the bolster 14, and the bowed portion of the main body portion 25 of the plate C is thus flattened out causing the vertical sections 27—27 of the plate to be forced laterally outwardly and pressed against the wear plates 20—20 of the guides 17—17 of the side frames. A substantial amount of frictional resistance is thus provided to retard up and down movements of the bolster, thereby effectively snubbing the action of the truck springs.

I have herein shown and described what I now consider the preferred manner of carrying out my invention, but the same is merely illustrative and I contemplate all changes and modifications that come within the scope of the claims appended hereto.

I claim:

1. In a railway car truck, the combination with a truck side frame having vertical bolster guides thereon; of a bolster vertically movable between said guides; truck springs supporting said bolster on the truck; and a friction plate spring member having a portion thereof interposed between said bolster and the truck springs, said plate having an upwardly bent section flexed with respect to said portion, interposed between one side of the bolster and the corresponding bolster guide and in sliding frictional contact with said guide.

2. In a railway car truck, the combination with a truck side frame having vertical bolster guides thereon; of a bolster vertically movable between said guides; truck springs supporting said bolster on the side frame; and a friction plate member of resilient metal having a portion thereof disposed between one side of the bolster and the corresponding bolster guide, and having another portion thereof bent at an angle to said first named portion, the angle between said portions being greater than a right angle, said second named portion of the plate being interposed between the bolster and the bolster springs and being pressed against said bolster by the springs, thereby flexing said second named portion with respect to the first named portion to reduce the angularity of said portions with respect to each other and yieldingly press said first named portion into tight frictional engagement with the corresponding bolster guide.

3. In a railway car truck, the combination with a truck side frame having opposed vertically disposed bolster guides thereon; of a bolster vertically movable between said guides, said bolster having a substantially horizontally disposed bottom face; truck springs supporting said bolster on the side frame; and a pair of friction plates, each plate being formed of resilient metal and comprising two sections bent at an angle to each other, which is greater than a right angle, each of said plates having one of the sections thereof disposed between the bolster and the truck springs and the other section thereof extending vertically between one side of the bolster and the corresponding bolster guide, the section of said plate which is between the bolster and springs being pressed against the bolster by said springs and flexed with respect to the vertically extending section to reduce the angularity between said sections and press the vertical section into tight frictional engagement with the corresponding bolster guide.

4. In a railway car truck, the combination with a truck side frame having opposed, vertically disposed bolster guides thereon; of a bolster vertically movable between said guides, said bolster having a substantially horizontally disposed bottom face; truck springs supporting said bolster on the side frame; a spring follower plate interposed between said bolster and truck springs, said follower plate having cut out portions at opposite ends providing seats; and a pair of spring friction plates, each plate comprising two sections bent at an angle to each other which is greater than a right angle, said plates being disposed at opposite sides of the bolster and each plate having one section thereof extending into the corresponding seat of the follower plate, said section being embraced between the bolster and the upper ends of the bolster springs, the other section of said plate extending vertically between the corresponding side of the bolster and cooperating bolster guide, the section of said plate which is between the bolster and springs being pressed against the bolster by said springs and flexed with respect to the vertically extending section to reduce the angularity between said sections and

press the vertical section into tight frictional engagement with the corresponding bolster guide.

5. In a railway car truck including a truck frame having vertical bolster guides thereon, the combination with a bolster vertically movable between said guides, springs supporting said bolster on the truck, and a friction spring plate having a bowed portion and upstanding vertical flanges at opposite ends of said bowed portion, said bowed portion being interposed between the underneath side of the bolster and the truck springs, with the upstanding vertical end flanges extending between the sides of the bolster and the bolster guides in sliding engagement with the latter, said bowed portion being flattened against the bolster by the pressure of said springs, forcing said flanges into tight frictional contact with the bolster guides.

6. In a railway car truck, the combination with a truck side frame having vertical bolster guides thereon; of a bolster vertically movable between said guides; truck springs supporting said bolster on the side frame; and a friction plate member of resilient metal having a main body portion provided with upstanding end sections extending between the sides of the bolster and the bolster guides, said body portion being normally bowed downwardly away from a horizontal plane, said main body portion being interposed between the underneath surface of the bolster and the truck springs and flexed under pressure of said springs to flatten the same against the underneath surface of the bolster, thereby yieldingly urging said upstanding sections into tight frictional contact with the bolster guides.

STACY B. HASELTINE.