No. 890,437. PATENTED JUNE 9, 1908.

C. F. MURRAY.

COLUMN GUIDE FOR CAR TRUCKS.

APPLICATION FILED DEC. 21, 1907.

3 SHEETS—SHEET 1.

Fig. 1.

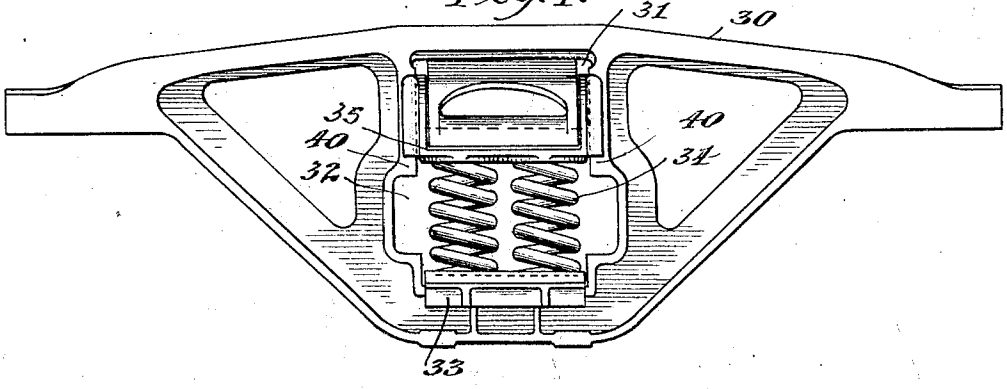


Fig. 4.

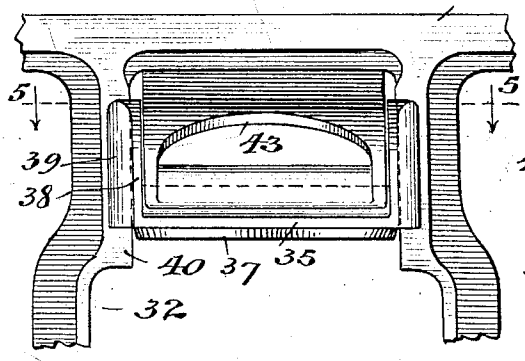
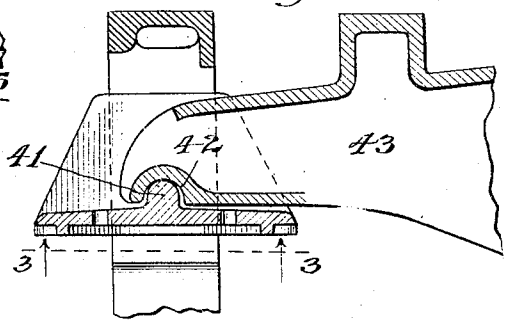


Fig. 2.



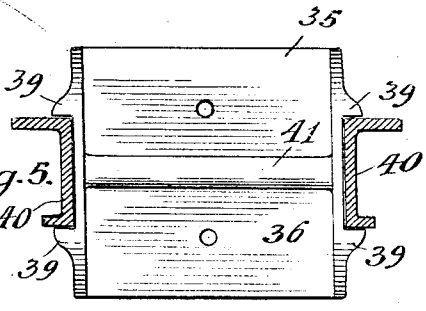


Fig. 5.

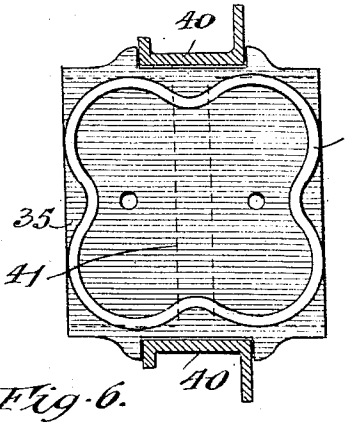


Fig. 3

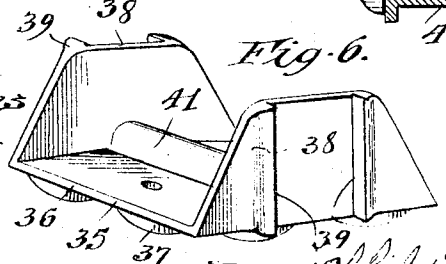


Fig. 6.

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3 SHEETS—SHEET 2.

Fig. 7.

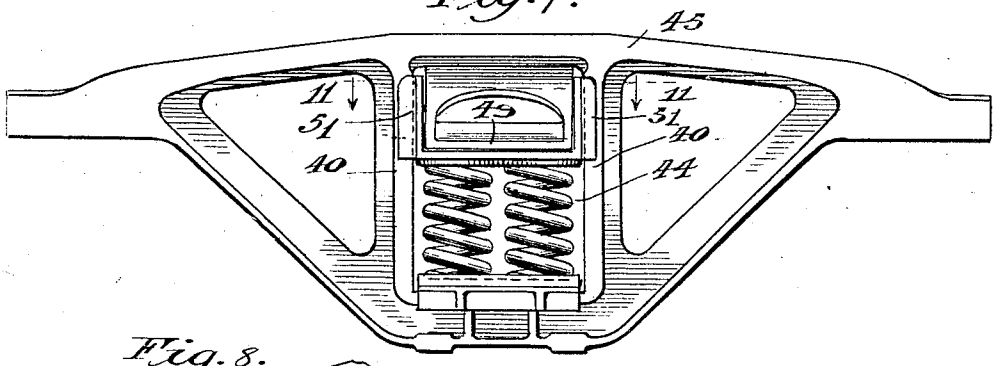


Fig. 8.

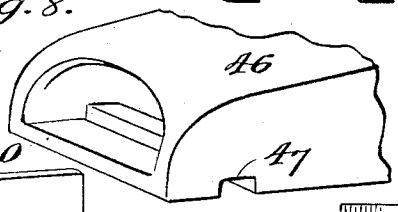


Fig. 9.

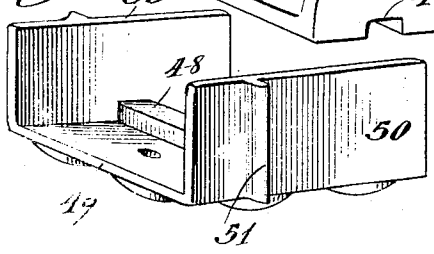


Fig. 10.

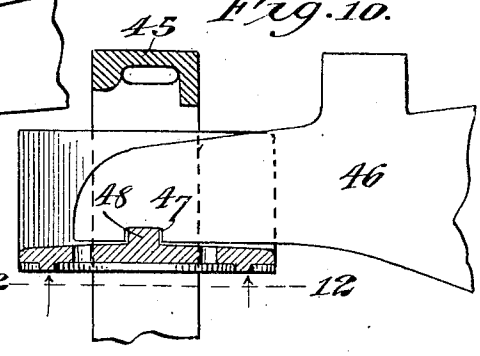
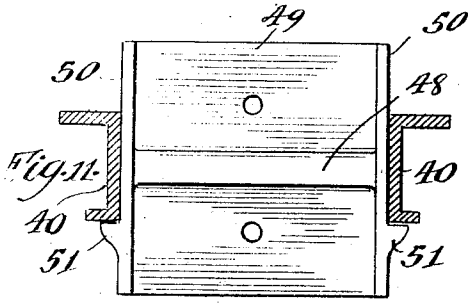


Fig. 11.



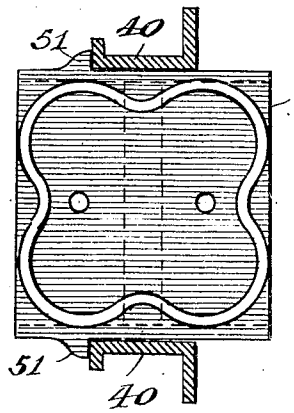


Fig. 12.

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3 SHEETS—SHEET 3.

Fig. 13.

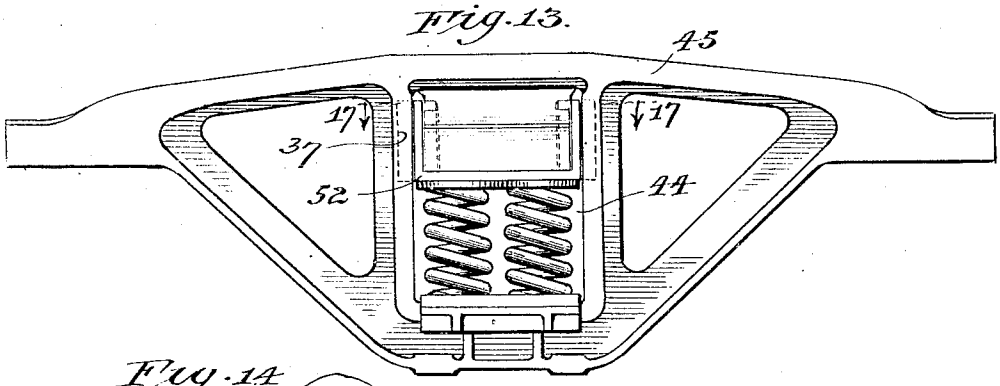


Fig. 14

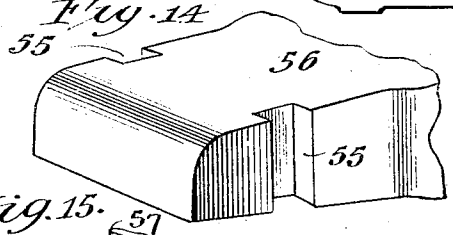


Fig. 15.

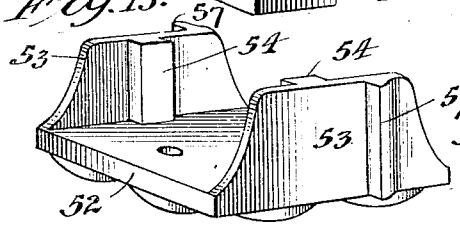
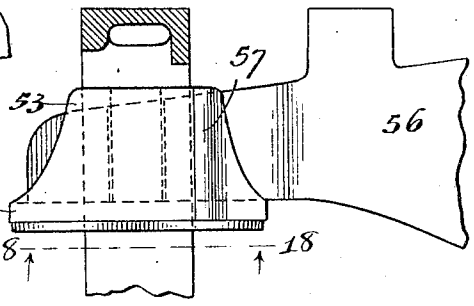


Fig. 16.



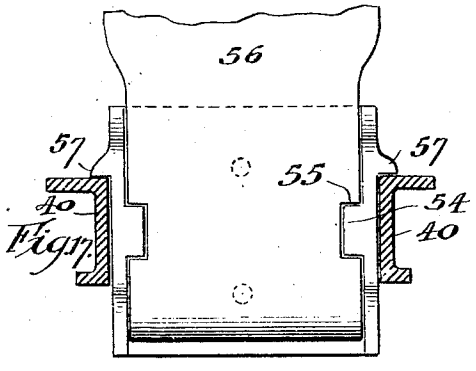


Fig. 17.

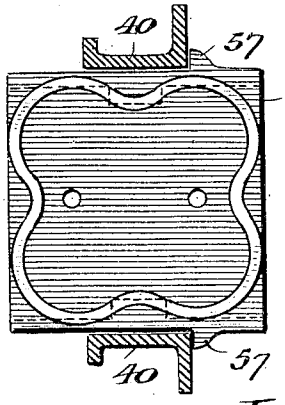


Fig. 18.

Witnesses,
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Walter M. Fuller

Inventor;
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Attys.

UNITED STATES PATENT OFFICE.

CHARLES F. MURRAY, OF CHICAGO, ILLINOIS, ASSIGNOR TO AMERICAN STEEL FOUNDRIES, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

COLUMN-GUIDE FOR CAR-TRUCKS.

No. 890,437. Specification of Letters Patent. Patented June 9, 1908.

Application filed December 21, 1907. Serial No. 407,509.

To all whom it may concern:

Be it known that I, CHARLES F. MURRAY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Column-Guides for Car-Trucks, of which the following is a specification.

My invention relates to improvements in railway car-trucks, and pertains more particularly to the means for supporting the bolster and retaining it in place so that it may be readily and quickly removed from the truck and side-frames.

Ordinarily, heretofore, the bolster has been removed from the truck by drawing it lengthwise through the central bolster and spring opening in one of the cast-metal side-frames. Owing, however, to the great depth of the bolsters at their middle portions as they are frequently constructed at present it is difficult and sometimes impossible to withdraw the boslter in this manner, the hole or aperture in the side-frame having an insufficient vertical dimension to allow the withdrawal of the bolster in the manner indicated. In most truck constructions the bolster is long enough to extend through the aperture of the side-frames and have guiding lugs or ribs coacting with the side-frames to prevent or limit longitudinal shifting of the bolster.

One object of my invention is to modify the usual construction so that even though the bolster is of great depth at its central part it can nevertheless be pushed outwardly through the aperture of one of the side frames to release its other end from the opposite side-frame, whereupon its freed end may be moved out of the truck and shifted lengthwise in the opposite direction to withdraw its other end from the side-frame through which it had previously been temporarily projected, and thus free the bolster entirely from the truck.

In my improved construction the bolster has no column guides, its ends resting on castings forming combined spring caps and column guides. In the preferred embodiments of my invention tongue and groove connections between the bolster and castings restrict or limit lengthwise or longitudinal shifting of the bolster. This tongue and groove are located either at the bottom of the bolster or on one or more sides of the same, and where the former construction is employed the bolster may be readily lifted off of and freed from the castings which bear the weight of the bolster and its load and transmit it to the springs and side-frame. In the other construction, where the tongue and groove connection is at the sides of the bolster, the castings may be as readily separated from the bolster, though their extent of movement is necessarily greater before the parts become separated.

On the accompanying drawings, forming a part of this specification, I have illustrated several desirable embodiments of my invention, and throughout the various views like reference characters refer to the same parts.

On these drawings—Figure 1 is a side elevation of a portion of a car-truck embodying my invention; Fig. 2 is a central vertical section through the upper portion of the side-frame, column guide casting, and bolster shown in Fig. 1; Fig. 3 is a section on line 3—3 of Fig. 2; Fig. 4 is a fragmentary side elevation of the construction shown in Fig. 2; Fig. 5 is a horizontal section on line 5—5 of Fig. 4, the bolster being omitted; Fig. 6 is a perspective view of the combined column guide and spring cap; Fig. 7 is a side elevation of a portion of the car-truck illustrating a modification of the construction shown in Fig. 1; Fig. 8 is a perspective view of the end portion of the bolster used in the truck shown in Fig. 7; Fig. 9 is a perspective view of the column guide casting employed in the truck shown in Fig. 7—Fig. 10 is a central vertical cross-section through the upper portion of the truck, the bolster being unsectioned; Fig. 11 is a horizontal section on line 11—11 of Fig. 7, the bolster being omitted; Fig. 12 is a horizontal section on line 12—12 of Fig. 10, the bolster being omitted; Fig. 13 is a side elevation of a part of the car-truck embodying another modification; Fig. 14 is a perspective view of an end of the bolster used in this truck; Fig. 15 is a perspective view of the column guide casting used in this truck; Fig. 16 is a vertical cross-section through the top portion of the side-frame, the column guide casting and bolster being unsectioned; Fig. 17 is a horizontal section on line 17—17 of Fig. 13; and Fig. 18 is a horizontal section on line 18—18 of Fig. 16, the bolster being omitted.

Referring first to the improved structure illustrated in Figs. 1 to 6, inclusive, it will be noticed that the car-truck has a cast-metal

side-frame 30, a central opening being provided in the side-frame for the accommodation of the springs and bolster, and in this particular embodiment of my invention this opening 31 is enlarged at its lower portion at 32 for a purpose hereinafter indicated. The car-truck has a spring seat 33 shown in Fig. 1, on which are superposed a plurality of coil compression springs 34, on the top ends of which is seated a casting 35 forming a combined column guide and spring cap. This casting, as is clearly indicated in the figures, has a bottom wall 36 equipped on its bottom surface with a downwardly-extended curved flange 37 to retain the springs in position. Upstanding from the opposite ends of the floor or wall 35 is the pair of vertical parallel end walls 38 somewhat upwardly tapered, as indicated, and each having on its outer surface the pair of guiding ribs 39 adapted to co-act with the column portions 40 of the side-frames to guide the column guide casting in its up and down movement and to prevent its displacement.

As is apparent from Fig. 1, the opening 32 is of sufficient size to permit the introduction of the column guide casting into the side-frame or permit its withdrawal therefrom, the withdrawal occurring, of course, after the casting has been lowered from its normal position, as indicated in the figures, into the enlarged portion of the central opening. Across the top face of the bottom wall 36 and joining the end walls 38 is an upstanding rib or web 41 which is adapted to fit in a transverse groove 42 on the under surface of the bolster 43. It will be noticed that the bolster 43 is shorter than usual, and is merely long enough to hook over the rib 41 of the casting, as is clearly indicated in Fig. 2.

To remove the bolster, the springs 34 are taken out, the casting 35 dropped and withdrawn laterally through the openings 32 of the pair of side-frames, and then the bolster may be withdrawn longitudinally through the central opening of one of the side-frames, provided it is not of too great depth at its central portion. If this latter condition is present, however, the bolster can nevertheless be readily removed after the castings have been taken out, by pushing the same outwardly through one of the openings of one side-frame until the other end of the bolster is freed from the opposite side-frame, whereupon this freed end may be lifted out of the truck, the whole bolster being then readily removed. It need hardly be mentioned that the coöperating ribs 41 and grooves 42 of the castings and bolster maintain the latter in proper position and prevent its longitudinal displacement under normal conditions.

In Figs. 7 to 12, inclusive, another form of the invention is set forth, the chief difference between this truck and that of Figs. 1–6 being that the central opening 44 of the side-frame 45 is not enlarged at its lower portion, but has its two vertical edges parallel, as indicated. The bolster 46 is much like the bolster 42, its distinguishing characteristic being the transverse slot 47 on its under surface, which, instead of being rounded as in the previous instance, is substantially rectangular in cross-section, as is also the rib 48 of the casting 49 which it receives and with which it coöperates to limit and restrict lengthwise shifting of the bolster. The side walls 50 of the casting 49 are not tapered, and each has on its outer face a single guiding rib 51 which is adapted to coöperate with either the outer or inner surface of the side-frame, according to the manner in which it is inserted in the frame. To remove the bolster, it is merely necessary to lower the casting 49 sufficiently to free the rib 48 from the bolster, whereupon the casting may be taken out from that side of the side-frame against which the guiding ribs 51 have been coacting. The bolster may then be withdrawn through the central opening 44, or may be removed in the manner described above.

Although I have shown the casting 49 with the ribs 50 coöperating with the outer face of the side frame, it will be perfectly apparent that the casting may be reversed and have the ribs coact with the inner face of the frame.

In the modification shown in Figs. 13 to 18 the side-frame 45 has a straight opening 44 and the column guide casting 52 is much like that illustrated in Fig. 6, except that instead of the single horizontal rib 41 the casting has on the inner faces of its upstanding end walls 53 the pair of guides 54 adapted to fit in the vertical side slots 55 of the bolster 56. The outer face of each of the walls 53 has a single guiding rib 57 which may abut against either the outer or inner face of the side-frame, according to how the casting is placed in the side-frame.

To remove the bolster from this truck it is necessary to take out the springs and drop the castings 52 sufficiently so as to free the guides 54 from the slots 55, after which the castings may be taken out sidewise from the side-frame, since the ribs 57 are present only on one side of the frame.

Although I have described in detail the precise and exact structural features of the various forms of devices illustrated, it is to be understood that my invention is not limited strictly to these features, since they may be modified considerably without departing from the spirit and substance of my invention.

I claim:

1. In a railway car-truck, the combination of a side-frame, one or more springs supported by said side-frame, a bolster-support sustained by said spring or springs and having one or more guiding lugs coöperating with one face only of said side-frame, and a bol-

ster having a transverse groove on its under surface, said bolster-support having a rib on its top face adapted to fit in said transverse groove and prevent lengthwise shifting of the bolster, substantially as described.

2. In a railway car-truck, the combination of a side-frame, one or more springs supported by said side-frame, a bolster-support sustained by said spring or springs and having one or more guiding lugs coöperating with one face only of said side-frame, a bolster resting on said bolster-support, and a tongue and groove connection between said bolster and support to prevent lengthwise shifting of the bolster, substantially as described.

CHARLES F. MURRAY.

Witnesses:
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WALTER M. FULLER.