July 1, 1930. S. B. HASELTINE 1,769,690

CAR CONSTRUCTION

Filed Dec. 19, 1929

Fig. 1

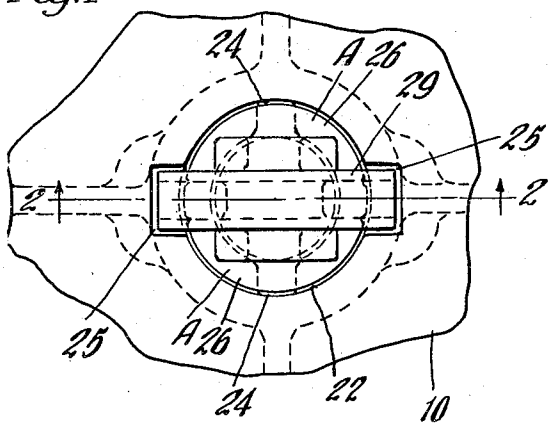


Fig. 4

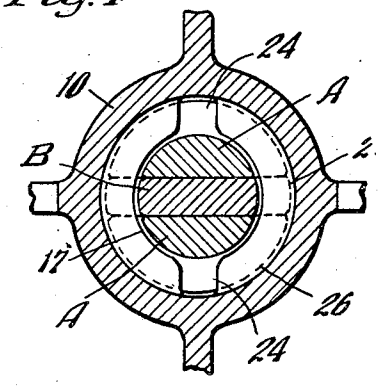


Fig. 2

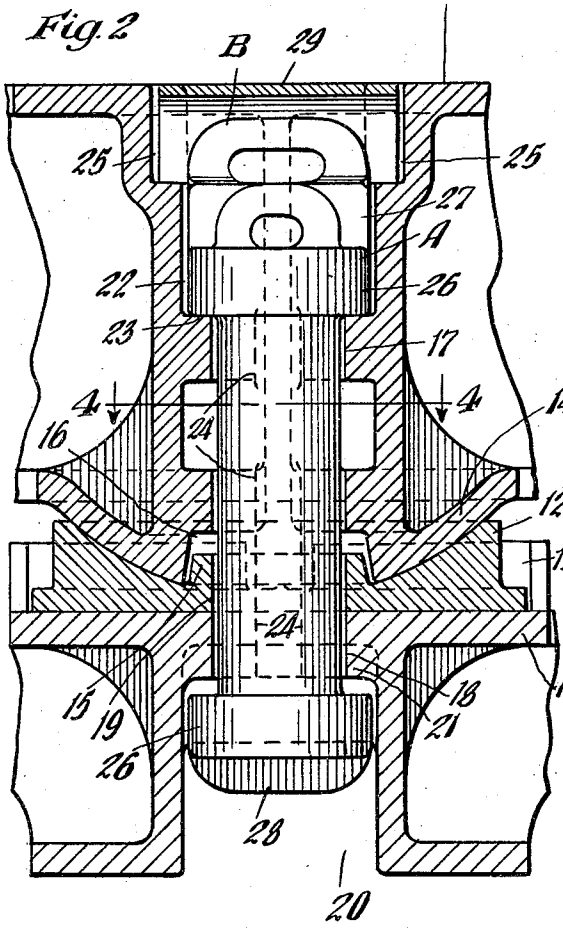
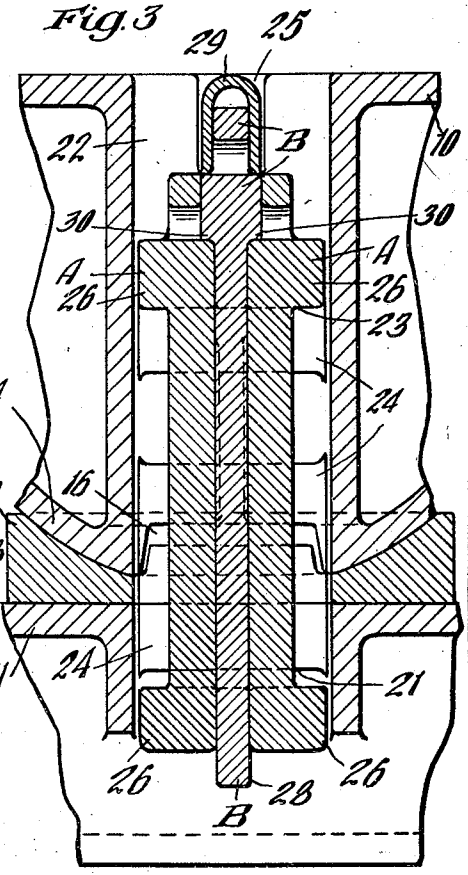


Fig. 3



Witness
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Patented July 1, 1930 1,769,690

UNITED STATES PATENT OFFICE

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CAR CONSTRUCTION

Application filed December 19, 1929. Serial No. 415,169.

This invention relates to improvements in car construction.

One object of the invention is to provide a connecting means for body and truck bolsters of railway cars in the form of a combined locking and center pin composed of a plurality of sections which may be readily applied and removed, and has shouldered engagement with the bolsters, wherein maximum strength is had by providing relatively large complete annular head members at opposite ends of the pin comprising enlargements at opposite ends of each section.

Another object of the invention is to provide a combined locking and center pin for body and truck bolsters of railway cars having alined center pin receiving openings, each provided with a shoulder at the outer end of its opening, wherein the center pin is composed of a plurality of sections including a pair of outer members and a combined filler and spreading member therebetween, each outer member and the filler member having heads at opposite ends thereof, and the shoulders of the bolsters are cut away to provide clearance in assembling the sections with the bolsters, and the assembled pin is rotatable to bring the head members of the filler in shouldered engagement with the bolsters and the filler member is locked against reverse rotation with respect to one of said bolsters to prevent disengagement of the head members thereof from the corresponding shoulders.

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

In the drawing, forming a part of this specification, Figure 1 is a top plan view of a portion of the body bolster of a railway car illustrating 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 vertical, sectional view substantially in a plane at right angles to the vertical, sectional view shown in Figure 2. And Figure 4 is a horizontal, sectional view corresponding substantially to the line 4—4 of Figure 2.

In said drawings, 10 designates a body bolster and 11 the truck bolster of a railway car. The truck bolster is provided with the usual bearing block 12 at the top thereof seated in a pocket 13 on the bolster. The body bolster is provided with a depending, cooperating bearing projection 14, which is of convex spherical formation and cooperates with the concave top bearing surface on the block 12. The block 12 is also provided with an annular upstanding flange 15 which engages within the usual pocket 16 provided at the bottom of the body bolster.

In carrying out my invention, I provide the body and truck bolsters with alined center pin receiving openings 17 and 18. The bearing block 12 is also provided with an opening 19, which registers with the openings 17 and 18. The openings of the body and truck bolsters and the bearing block are preferably of cylindrical cross section and of the same size. Below the pin receiving opening 18 of the truck bolster, a relatively large pocket 20 is provided, which, as shown, is of considerably greater width than the pin receiving opening 18, thereby providing a retaining shoulder 21 at the bottom end of said opening.

The body bolster is also provided with a relatively large pocket 22 above the center pin receiving opening 17 thereof, which is of greater width than said opening, thereby providing an annular retaining shoulder 23 surrounding said opening at the uper end thereof. At the upper end of the pocket 22, the truck bolster walls are recessed at diametrically opposite sides as indicated at 25—25, for a purpose hereinafter pointed out. The walls of the openings 17 and 18 of the body and truck bolsters and the opening 19 of the bearing block 12 are vertically slotted at diametrically opposite sides, as indicated at 24—24. The slots 24—24 extend through the shoulders 21 and 23 of the truck and body bolsters, thereby cutting away portions of the shoulders and leaving supporting ledges on diametrically opposite sides of the pin receiving openings.

My improved combined locking and center pin comprises broadly a pair of outer mem-

bers A—A and a central filler or spreading member B.

The members A are of similar design, each having a shank portion extending through the pin receiving openings and head members 26—26 at the top and bottom ends of the shank portion. The shank of each member A has a flat inner face and a curved outer surface which corresponds substantially to the curvature of the corresponding wall portions of the pin receiving openings of the bolsters. The head members 26 are in the form of arcuate flange elements which are of such a size that they will pass through the pin receiving openings of the bolsters when the end portions of the flanges are alined with the slots 24 so as to pass through the same. The head members 26 correspond in size to the ledges of the shoulders and are preferably co-extensive therewith. When the two sections A are spread apart, as clearly shown in Figures 3 and 4, the head portions thereof overhang the retaining shoulders of the body and truck bolsters, thereby preventing separation of the bolsters.

The combined filler and spreader member B is in the form of a relatively wide flat plate having enlargements 27 and 28 at the top and bottom ends thereof respectively. The enlargements 27 and 28 form head portions adapted to cooperate with the retaining shoulders of the body and truck bolsters. The enlargements 27 and 28 are of such a size that they pass freely through the slots 24 in assembling the parts, while the filler member is being inserted within the openings of the bolsters between the members A. As will be evident, when the assembled pin is rotated about its axis, the head members 27 and 28 at the top and bottom ends of the filler member B will be brought into shouldered engagement with the retaining shoulders of the body and truck bolsters.

As most clearly illustrated in Figure 1, the recesses 25—25 at the upper end of the pocket 22 of the body bolster are located in a vertical plane at an angle of 90° to an axial plane passing through the slots 24. When the head portions of the filler member are brought into shouldered engagement with the bolsters, the filler plate is disposed in alinement with the recesses 25—25. In order to prevent backward rotation of the filler plate with respect to the body bolster, a locking clip 29 is employed, which is interlocked with the body bolster and the filler plate. As most clearly shown in Figures 2 and 3, the clip 29 is of U-shape form and has the opposite ends thereof seated in the recesses 25 and the side members closely embracing the top end portion of the filler plate B.

As clearly shown in Figure 2, both the outer members A—A and the filler plate B are provided with eye members at the top thereof to facilitate handling of the same and withdrawal of the parts from the center pin receiving openings of the bolsters. As most clearly shown in Figure 3, the upper end portion of the plate B is laterally enlarged, thereby providing shouldered engagement with the upper ends of the members A, as indicated at 30—30. This shouldered engagement between the plate B and the members A prevents the plate from dropping between the members A.

In applying my improved combined locking and center pin to the bolsters of a railway car, the sections A—A may be inserted either through the top of the body bolster or upwardly through the bottom of the truck bolster. The sections A are inserted successively. Assuming that the section A, shown at the lefthand side of Figure 3, is first applied, the head portions thereof are so disposed as to register with the slots 24 of the bolsters. When in this position, the section A referred to may be freely inserted through the openings of the two bolsters. After having been completely inserted, this section is displaced laterally so as to overlap the head portions thereof with the shoulders of the body and truck bolsters respectively. The other section A is then applied in a similar manner, it being evident that the first section when displaced laterally entirely clears the slots 24 so as to permit passage of the head portions of the second section A. When the two sections have been spread apart, as shown in Figure 3, the filler plate B is applied therebetween by inserting the same through the top of the body bolster. When the filler plate has been completely inserted, the head members at the top and bottom ends thereof are disposed respectively above and below the retaining shoulders of the body and truck bolsters. With the parts thus assembled, the pin is rotated about its vertical axis through an angle of 90°, thereby bringing the filler plate into alinement with the recesses 25—25 of the pocket 22 of the body bolster. As will be evident, when the parts are thus positioned, the filler plate has shouldered engagement with both the body and truck bolsters. The locking clip 29 is then applied by engaging the same over the upstanding eye portion of the filler plate and seating the ends thereof in the recess 25. As hereinbefore pointed out, the clip thus locks the assembled pin against rotation with respect to the body bolster. When it is desired to separate the bolsters or remove the combined locking and center pin, the clip 29 is first disengaged from the filler member and the recesses 25—25. The entire pin is then rotated about its axis until the head portions of the filler member are alined with the slots 24 of the bolsters. As will be evident, the filler member may then be freely withdrawn upwardly through the body bol-

ster, the head portion 28 at the bottom end thereof passing freely through the slots. After the filler member has been removed, either of the sections A may be displaced laterally inwardly until the opposite end portions of the flanges, which form the top and bottom heads, are in alinement with the slots, whereupon the section may be withdrawn either through the body or truck bolster, the heads passing through the slotted portions of the bolsters. The other section A may then be displaced laterally and removed in a similar manner.

From the preceding description taken in connection with the drawings, it will be evident that I have provided an exceedingly rugged center pin of the sectional type wherein complete annular head members are provided at opposite ends to assure shouldered engagement with the retaining shoulders of the bolsters at all times and thereby providing maximum tensile strength in all relative angular positions of the body and truck bolsters.

A decided advantage is also obtained by locking the assembled pin against rotation with respect to one of the bolsters in that all danger of the pin shifting to a position where the head members of the filler member will become disengaged is avoided.

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 car construction, the combination with body and truck bolsters having alined center pin receiving openings, each bolster having a shoulder adjacent the outer end of its opening; of a pair of outer pin members extending through the openings of the bolsters and having members at opposite ends thereof having shouldered engagement with the shoulders of the bolsters; a filler member between said outer members to hold the same spread apart, said filler member having head members at opposite ends thereof, the shoulders of the bolsters having sections thereof cut away to provide clearance for the head members of the filler member while being assembled with the bolsters, said assembled pin being rotatable about its axis to bring the heads of the filler member into operative engagement with the shoulders of the bolsters; and means for locking the assembled pin against rotation with respect to one of said bolsters to maintain said shouldered engagement between the bolsters and the filler member.

2. In car construction, the combination with body and truck bolsters having alined center pin receiving openings, each bolster having a shoulder adjacent the outer end of its opening, said shoulder being cut away at diametrically opposite sides of the opening; of a pair of outer pin members each having enlargements at opposite ends and a shank portion extending through the openings of the bolsters; a central spreading member between said outer members to hold the same apart and the enlargements thereof in shouldered engagement with the shoulders of the bolsters, said enlargements of the filler member being adapted to pass through said diametrically cut away portions of the shoulders of the bolsters when said filler member is in alinement therewith, said complete pin comprising the filler member and the outer members being turnable to a position to bring the enlargements of the filler member into shouldered engagement with the shoulders of both bolsters; and a locking member having engagement with one of the bolsters and said filler member to prevent relative rotation of the filler member and the last named bolster to maintain said shouldered engagement with the bolsters.

3. In car construction, the combination with cooperating body and truck bolsters provided with alined center pin receiving openings, each bolster having a shoulder at the outer end of its opening, and each shoulder being recessed at diametrically opposite sides, thereby providing spaced ledges; of a pair of connecting members each having a shank and head portions at opposite ends thereof, said shanks extending through the pin receiving openings of the bolsters; a spreading member between said first named members for holding the same apart and maintaining the head portions thereof engaged with said shoulders, said head portions being of such a size and shape that they will pass freely through the combined space provided by the center pin openings and the adjacent recessed portions of the shoulders before application of said spreading member, said spreading member having head portions at opposite ends thereof adapted to pass through said cut away sections of the shoulders, the complete pin comprising the spreading member and connecting members being turnable about the axis of the pin to bring the head members of the spreading member into engagement with the shoulders of the bolsters; and means cooperating with one of the bolsters for locking said filler member against rotation relative thereto.

4. In car construction, the combination with cooperating body and truck bolsters having alined center pin receiving openings, and each bolster having a shoulder adjacent its opening; of a pair of center pin members each having head portions at opposite ends thereof having shouldered engagement with the shoulders of said bolsters respectively, the shoulders of said bolsters being cut away to clear said head portions of each member

while being applied to the bolters by separate insertion of said center pin members successively through said openings; a spreading member interposed between said pin members to hold the same spread apart and in shouldered engagement with the bolsters, said spreading member having head portions at opposite ends thereof adapted to pass through said cut away portions of the shoulders and having shouldered engagement with the shoulders of the bolsters when displaced laterally with respect to said cut away portions; and means for locking said filler member against displacement with respect to one of said bolsters to maintain shouldered engagement thereof with both bolsters.

In witness that I claim the foregoing I have hereunto subscribed my name this 17th day of December 1929.

STACY B. HASELTINE.