June 24, 1930. S. B. HASELTINE 1,766,631

CAR CONSTRUCTION

Original Filed Jan. 24, 1929

Fig. 1

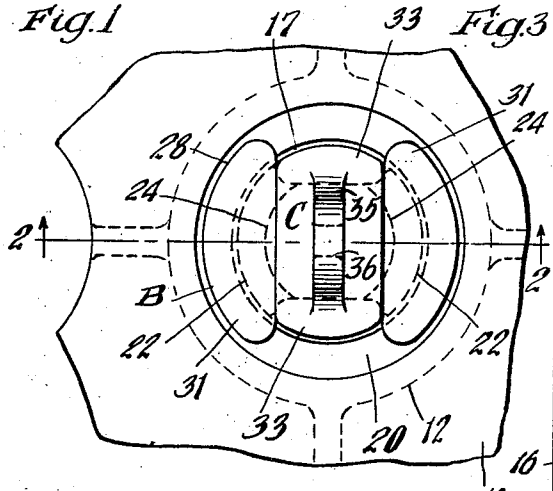


Fig. 3

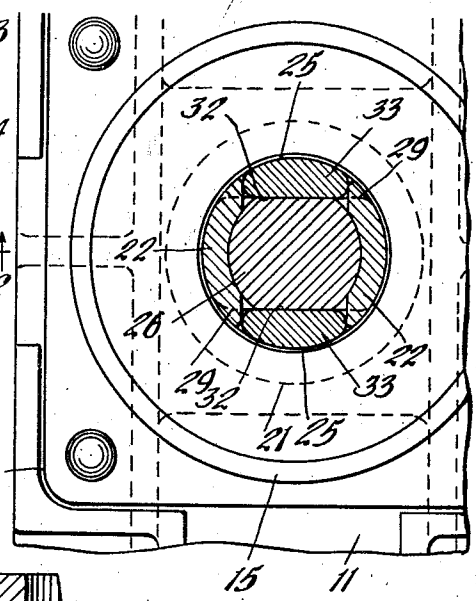


Fig. 2

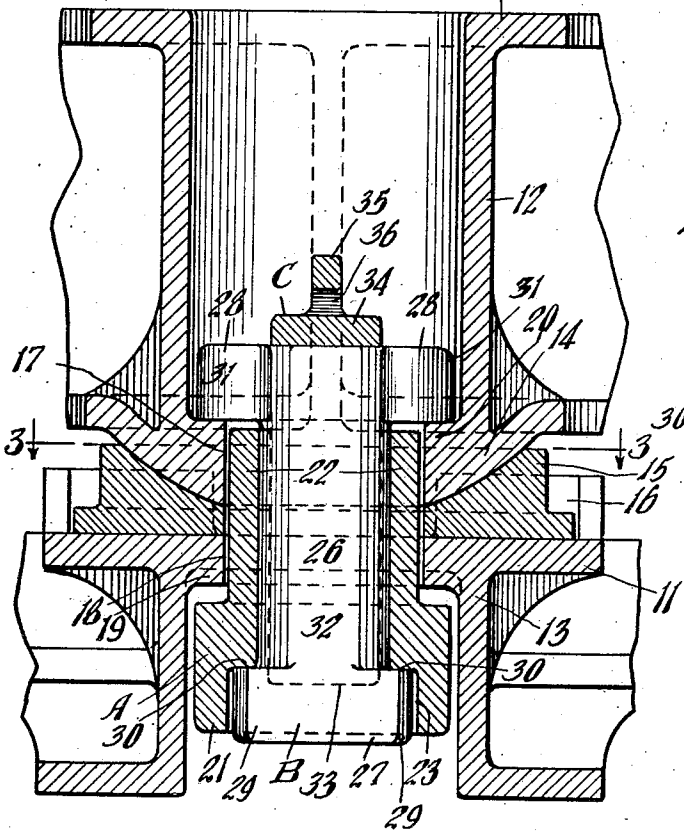
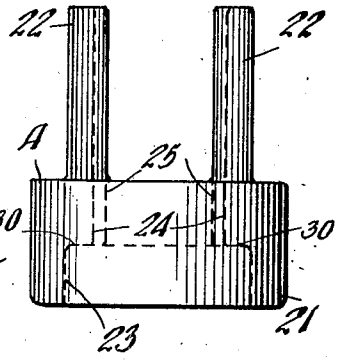


Fig. 4



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UNITED STATES PATENT OFFICE

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CAR CONSTRUCTION

Application filed January 24, 1929, Serial No. 334,694. Renewed December 5, 1929.

This invention relates to improvements in car construction.

One object of the invention is to provide a combined locking and center pin arrangement for car bolsters composed of a plurality of parts which may be readily applied and removed when assembled and forms an effective locking means of substantial construction throughout for preventing separation of the bolsters, the assembled means presenting a relatively large cross sectional area to minimize the possibility of shearing off or breaking of the pin under tension strains in cases of emergency as when the car is in collision.

Another object of the invention is to provide a combined locking and center pin arrangement for body and truck bolsters of railway cars provided with aligned pin receiving openings, including a locking device provided with heads at opposite ends having shouldered engagement with the body and truck bolsters, respectively, and a shank portion disposed within the pin openings, the locking device comprising a pair of telescoped members each of which has one of the head members of the pin formed thereon, the head of the outer member being hollow and the inner of the telescoped members having an additional head formed by laterally projecting enlargements which are seated in the hollow head and interlocked therewith, and means for locking the two telescoped members against relative rotation.

Other and further 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 a body bolster of a railway car, illustrating my improvements in connection therewith. Figure 2 is a vertical sectional view through the body and truck bolsters of a railway car, corresponding substantially to the line 2—2 of Figure 1. Figure 3 is a horizontal sectional view, partly broken away, corresponding substantially to the line 3—3 of Figure 2. And Figure 4 is a detailed elevational view of one of the telescoped members of my improved combined locking and center pin element.

In said drawings, 10 designates the body bolster of a railway car and 11 the cooperating truck bolster. The body and truck bolsters are of the usual design in general, comprising top and bottom web members which are connected by the usual wall members, the connecting portion of the body bolster being of tubular form providing a pocket for the head at the upper end of the center pin. The tubular sleeve portion of the body bolster is designated by 12. The connecting portion of the truck bolster comprises spaced transverse walls defining a pocket 13, adapted to accommodate the bottom head of the combined locking and center pin member proper. The body bolster is provided with the usual bottom bearing projection 14 which has a curved bearing surface seated in a similar bearing surface formed on a bearing block 15 mounted on the truck bolster and seated within a pocket 16.

In carrying out my invention, I provide the body bolster with a center pin receiving opening 17 of smaller diameter than the interior of the pocket formed by the tubular member 12. The truck bolster is provided with a center pin receiving opening 18 of the same diameter as the opening 17 and in alignment therewith.

The bearing plate 15 is also provided with an opening in alignment with the openings 17 and 18, and of the same diameter as these openings. The pocket formed by the tubular member 13 of the truck bolster is of larger diameter than the opening 18, whereby an annular shoulder 19 is defined adjacent said opening. At the junction between the bottom of the pocket of the body bolster and the opening 17, a similar annular shoulder 20 is defined.

My improved center pin member proper comprises, broadly, telescoped sections A and B and a locking element C. The section A of the pin comprises a head portion 21 having a pair of upstanding spaced arms 22—22 formed integral therewith. The arms 22 extend through the openings 17

and 18 and have curved outer surfaces which substantially fit the opposed curved walls of the center pin receiving openings. The head member 21 is recessed at the bottom, as indicated at 23, thereby providing a pocket or seat for a purpose hereinafter pointed out. An opening 24 communicates with the seat 23 and defines a central bore of the pin adapted to receive the shank portion of the member B. The bore of the pin is also defined by the inner side walls of the upstanding arms 22, and the inner walls of the arms have curved concave surfaces which are aligned with the corresponding side walls of the opening 24 in the head A. The head member 21 has its upward movement limited by engagement with the annular shoulder 19 of the truck bolster. At diametrically opposite sides, the walls of the opening 24 are recessed, as indicated at 25, said recesses being disposed between the arms 22.

The member B comprises a shank portion 26 having head members 27 and 28 at the opposite ends thereof. The head member 27, which is at the lower end of the member B, is cut away at opposite sides, thereby presenting diametrically opposite locking enlargements 29—29 which are adapted to cooperate with the head 21 of the member A. The enlargements are of such a size that they will pass through the recesses 25 when in alignment therewith and will be brought into locking engagement with the inner wall of the seat 23 when the member B is given a quarter rotation about its axis. The inner wall of the pocket 23 comprises two ledge portions or retaining shoulders 30—30 at opposite sides of the member A.

The head 28 at the upper end of the shank 26 is composed of diametrically opposite laterally extending enlargements 31—31 which are of such a size as to overhang the annular shoulder 20 of the body bolster. Between the enlargements 31, the shank of the pin, as well as the head thereof, is cut away to present flat side faces 32—32 which are disposed inwardly with respect to the opposed side walls of the pin receiving openings and the recesses 25 of the head 21 of the member A such a distance as to accommodate a locking means. The head formed by the enlargements 31—31 limits the member B against downward movement. As will be evident when the head at the bottom end of the member B is interlocked with the member A, the assembled pin will be held against accidental loss with respect to the bolsters and will lock the bolsters against separation in a vertical direction.

The locking element C is employed to prevent relative rotation of the members A and B after they have been assembled. The locking member C is in the form of a U-shaped clip having spaced side arms 33—33 and a connecting upper section 34. The arms 33 have flat inner faces, as clearly shown in Figure 3. When the locking element is assembled with the parts A and B, the arms 33 are disposed at opposite sides of the shank of the member B and extend into the recesses 25 at opposite sides of the head of the member A, while the transverse upper member 34 rests on top of the head at the upper end of the member B. The outer surfaces of the arms 33 are curved, as shown in Figures 1 and 3, so as to conform to the walls of the pin receiving openings, thereby permitting rotation of the assembled pin. As the bottom end portions of the arms 33 of the locking element are seated in the recesses 25 of the head of the member A, and the inner faces of the arms engage the opposite flat surfaces of the shank portion of the member B, all of the parts are effectively locked against relative rotation with respect to each other, while permitting rotation of the assembled unit within the pin receiving openings of the body and truck bolsters.

In applying my improved locking and center pin to the body and truck bolsters 10 and 11, the inner member B is first inserted within the pin receiving openings by passing the same downwardly through the pocket of the body bolster and disposing the shank 26 within the openings 17 and 18. The outer member A is then applied by inserting the same within the pin receiving openings through the pocket in the truck bolster and registering the openings 25—25 thereof with the enlargements 29—29 of the member B.

The head member formed by the enlargements 29—29 and the shank 26 of the member B are then telescoped within the member A, bringing the lugs 29 into the pocket 23. After the lugs have been moved past the shoulders 30, the two parts A and B of the pin are given a quarter rotation with respect to each other, thus bringing the enlargements 29 in overlapping relation with the shoulders 30. The locking element C is then applied through the pocket of the body bolster and the arms 33 thereof engaged in the openings between the shank 26 of the member B and the opposite side walls of the pin receiving openings and the bottom ends of said arms seated in the recesses 25 of the head of the member A, thereby locking all of the parts of the pin against relative rotation, as hereinbefore pointed out. As will be evident when the combined locking and center pin has been assembled with the body and truck bolsters, the same will prevent relative separation of the bolsters by engagement of the head 21 with the shoulder 19 of the truck bolster and the head formed by the enlargements 31 of the member B with the shoulder 20 of the body bolster, separation of the members A and B being prevented by the

head at the bottom end of the member B which engages the shoulders of the head 21.

When it is desired to disconnect the bolsters, it is merely necessary to remove the locking element C by withdrawing the same through the pocket of the body bolster, the element C being provided with an upstanding lug 35 having an opening 36 within which a lifting tool may be engaged. When the locking element has been removed, the members A and B are given a quarter turn with respect to each other to bring the enlargements 29 at the bottom end of the member B in alignment with the recesses 25, whereupon the member A may be separated from the member B by withdrawing the same through the pocket in the truck bolster.

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

I claim:

1. In car construction, the combination with body and truck bolsters having aligned center pin receiving openings; of a center pin provided with heads at opposite ends having shouldered engagement with the body and truck bolsters, respectively, each of said heads having a shank portion extending therefrom, one of said shanks having an opening and the head thereof being hollow, the other shank extending through said opening and having locking means at the end thereof projecting into the hollow head and having shouldered engagement therewith.

2. In car construction, the combination with body and truck bolsters having aligned center pin openings, each bolster being provided with a shoulder adjacent its opening; of a center pin comprising outer and inner members, said outer member having a shank portion disposed in said openings and a hollow head cooperating with the shoulder of one of the bolsters, said shank and head having an opening therethrough and said head having retaining shoulders adjacent said opening, the inner member having a shank fitting within the opening of the outer member and a head cooperating with the shoulder of the other bolster and an enlargement at the other end of the shank, said enlargement and the cross section of the opening in said shank and head of the outer member being such that it may be inserted therethrough in one position, but is prevented from passing therethrough when given a partial turn to engage the enlargement with the shoulder of said outer member.

3. In car construction, the combination with body and truck bolsters having aligned center pin openings, each bolster being provided with a shoulder adjacent its opening; of a center pin comprising outer and inner members, said outer member having a shank portion disposed in said openings and a hollow head cooperating with the shoulder of one of the bolsters, said shank and head having an opening therethrough and said head having retaining shoulders adjacent said opening, the inner member having a shank fitting within the opening of the outer member and a head cooperating with the shoulder of the other bolster and a pair of diametrically opposite lugs at the other end of the shank, the side walls of said opening of the outer member being slotted to permit passage of said lugs, whereby the shank may be telescoped with the shank of the outer member and the lugs brought into overlapping relation with the retaining shoulder of the outer member when given a partial turn to lock said members against separation, and means for locking said members against relative rotation.

4. In car construction, the combination with body and truck bolsters having aligned center pin openings, each bolster being provided with a shoulder adjacent its opening; of a center pin comprising outer and inner members, said outer member comprising a head having a pair of spaced arms extending therefrom adapted to engage within the center pin openings of the bolsters, said head cooperating with the shoulder of one of the bolsters, said head having a seat providing a retaining shoulder, the inner member having a shank fitting between said arms and engaging within said seat, the portion of said shank disposed within said seat having enlargements cooperating with the shoulder of said seat to prevent separation of the inner and outer members, said shank having a head member at the opposite end thereof cooperating with the other bolster.

5. 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 the opening thereof; of means for connecting said bolsters including inner and outer members, each having a shank portion disposed within the openings of the bolsters, said outer member having an enlargement at one end thereof having shouldered engagement with one of said bolsters, said inner member having heads at opposite ends thereof having shouldered engagement respectively with the other bolster and the outer member at said enlarged end, said last named head being of such a shape as to pass through said outer member when said inner member is in one position and being prevented from passing through said outer

member when given a partial turn relative thereto to provide said shouldered engagement.

In witness that I claim the foregoing I have hereunto subscribed my name this 21st day of January, 1929.

STACY B. HASELTINE.