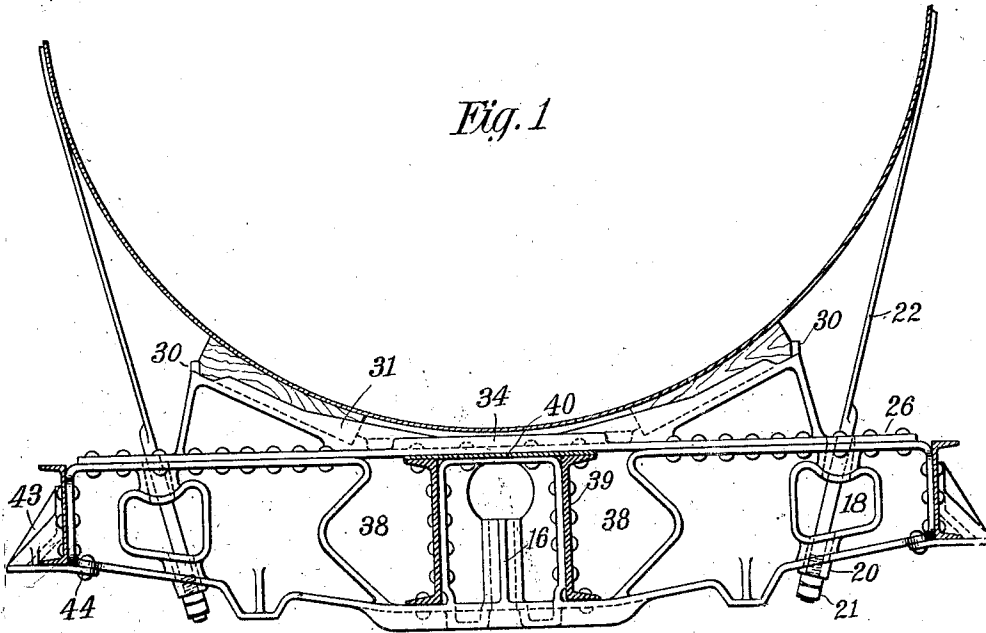
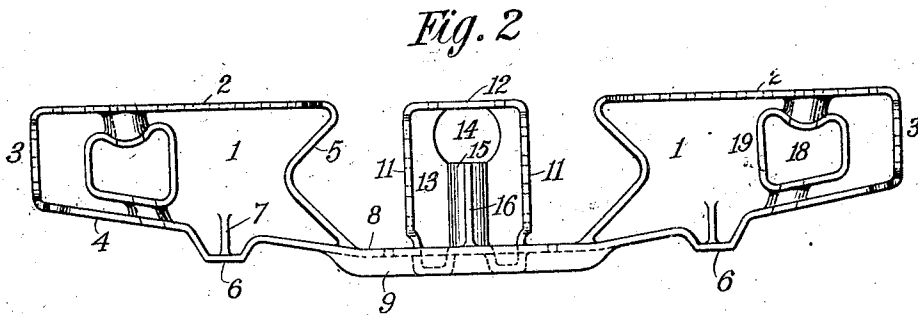
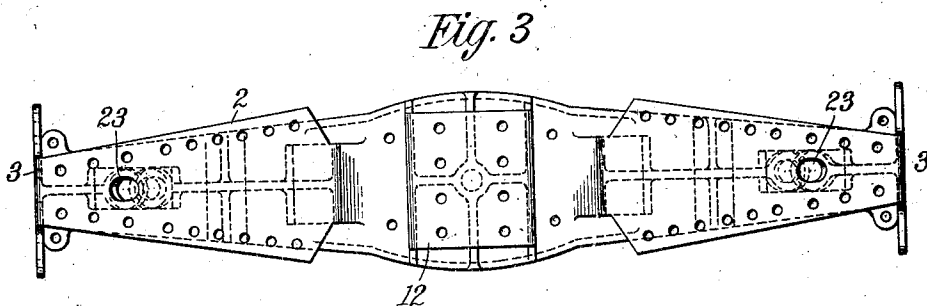


J. McE. AMES.
SEPARABLE CAST BOLSTER.
APPLICATION FILED AUG. 6, 1908.

Patented July 27, 1909.
2 SHEETS—SHEET 1.

928,926.



Witnesses:
Raphaël Ketter
G. M. Coppenhaver.

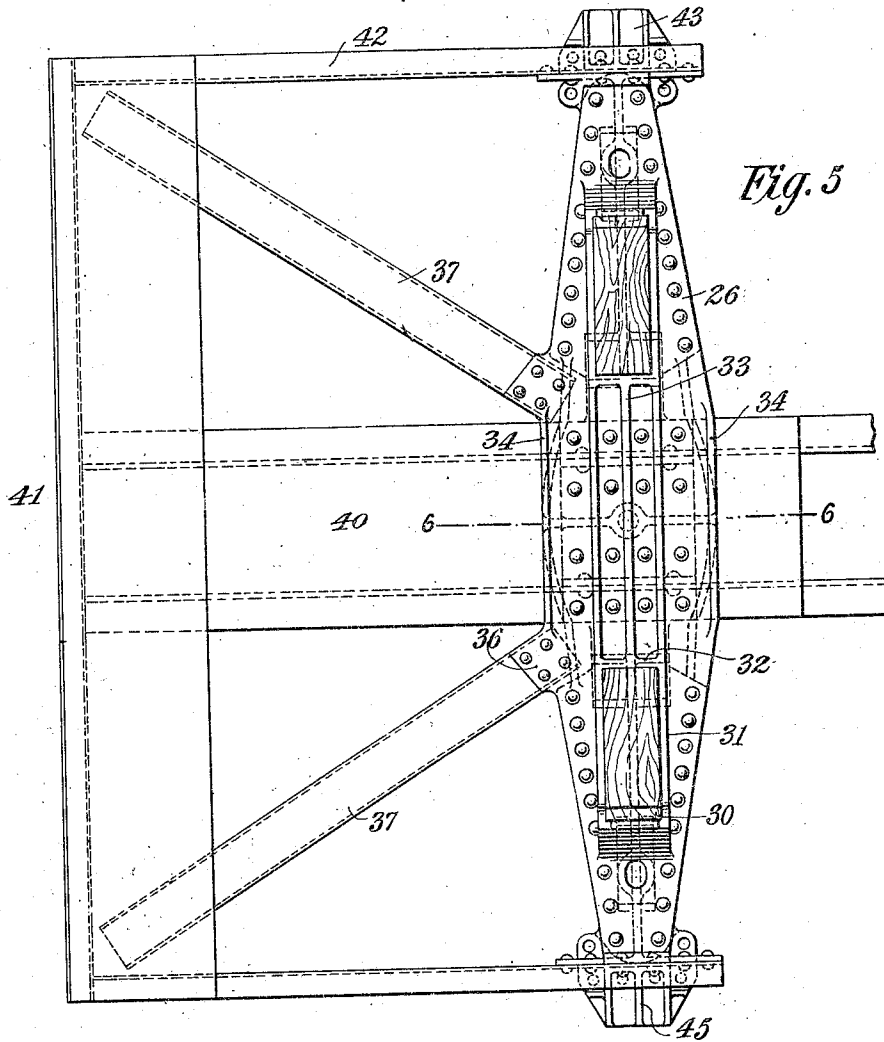
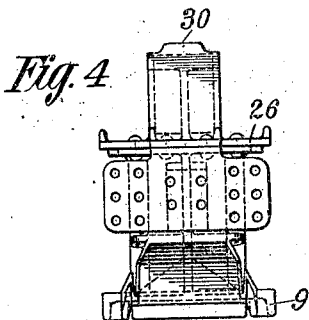
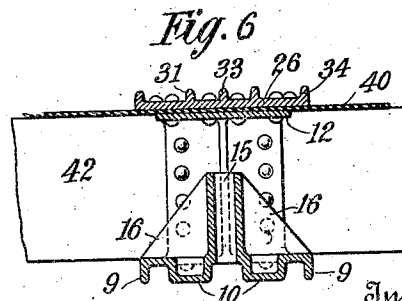
Inventor
John McE. Ames
By his Attorney
F. H. Gibbs

J. McE. AMES.
SEPARABLE CAST BOLSTER.
APPLICATION FILED AUG. 6, 1908.

Patented July 27, 1909.

2 SHEETS—SHEET 2.

928,926.



Witnesses:
Raphael Keller
J. M. Copenhagen.

Inventor
John McE. Ames.
By His Attorney
J. H. Gibbs

UNITED STATES PATENT OFFICE.

JOHN MCE. AMES, OF DONGAN HILLS, NEW YORK.

SEPARABLE CAST BOLSTER.

No. 928,926.

Specification of Letters Patent.

Patented July 27, 1909.

Application filed August 6, 1908. Serial No. 447,203.

To all whom it may concern:

Be it known that I, JOHN MCE. AMES, residing at Dongan Hills, Staten Island, New York, and being a citizen of the United States, have invented certain new and useful Improvements in Separable Cast Bolsters, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which illustrate the preferred form of the invention, though it is to be understood that the invention is not limited to the exact details of construction shown and described, as it is obvious that various modifications thereof will occur to persons skilled in the art.

In said drawings: Figure 1 is a transverse sectional view of a tank car equipped with my invention; Fig. 2 is a detached detailed view of the body portion of a bolster adapted to be used with my improved underframe with the cover plate thereof removed. Fig. 3 is a plan view of the part of the bolster which is shown in elevation in Fig. 2; Fig. 4 is an end elevational view of the bolster assembled; Fig. 5 is a plan view of an underframe formed of commercial shapes which is connected with my improved bolster; and Fig. 6 is a longitudinal sectional view taken on line 6—6 of Fig. 5.

The object of this invention is to provide a two part cast metal bolster which is separated horizontally and comprises a body portion of one integral casting with a top cover plate combined with a tank cradle in another integral casting, the body portion of the cover plate being adapted to be connected by suitable rivets which are projected vertically through flanges provided in both members and being connected and reinforced at the middle portion thereof by center sills which extend longitudinally of the underframe through an opening at each side of the center of the improved bolster.

In the construction shown in this application I have illustrated a bolster which is adapted for use in both new constructions and for repairs in cars already built, in which cars my improved bolster may be sub-

stituted for other types of bolsters without dismantling the underframe.

Referring to the parts, particularly in Fig. 2, 1—1 are web portions which are provided with perimetrical flanges 2—3—4—5, extending respectively along the top, end, bottom and inner portions of said web portions 1 there being side bearings 6 extending downwardly from the web 1 and the flanges 4 following the contour of said side bearings, while vertical fillets or ribs 7 serve to strengthen said side bearings.

Connecting the web portions 1 are intermediate flanged plate portions 8 provided with depending longitudinal flanges 9 which extend slightly beyond the aforementioned flanges 5. Intermediate the flanges 9 is an integral center bearing 10 above which is a shape which corresponds with the well known center filler casting; though in this construction said center filler is provided with vertical side flanges 11 and cross connecting plate or flange 12, all of which are perforated for the reception of rivets, as are the top flanges 2 and end flanges 3.

Within the flanges 11—12 is a web portion 13 provided with an opening 14 for the insertion of a pin in the socket 15, while forwardly and rearwardly projecting flanges 16 are also formed integral with said socket member. Beyond the side bearings 6 the webs 1 are provided with transversely extending openings 18 having perimetrical flanges 19 which are rounded at their upper portion to provide bearing surfaces for washers 20 which with nuts 21 serve to secure the tank bands 22 in position and it is to be understood that while in Fig. 1 these tank bands extend entirely through the bolster being projected through openings 23 in the body portion thereof, the said tank bands may terminate within the openings 18 when shorter tank bands are used as will most likely be the case in new constructions.

The upper portion or cover plate of the improved bolster comprises a horizontal cover plate 26 which is relatively coextensive with the top flanges 2 of the body portion and spans the intermediate portion of the bolster, as shown in Figs. 1 and 5. This

cover plate is riveted to the outstanding flanges 2 of the body portion and to the horizontal flange 12 of the center filler portion of the body of the bolster and is provided with obliquely disposed, elevated timber pockets formed by the end flanges 30, side flanges 31 and transverse intermediate flanges 32 between which the side flanges 31 extend in gradually reducing section toward the middle of the bolster and between the extensions of said flanges 31 there is provided an intermediate flange 33 which flanges materially contribute to strengthening the bolster.

Outside of the line of rivets which connect the top portion or cover plate with the body portion of the bolster are other longitudinally extending flanges 34 which rise above the normal plane of the horizontal portion of the cover plate 26 said ribs 34 extending across the middle portion of the bolster only. Integral with the cover plate 26 are obliquely and forwardly extending flanges 36 provided for the purpose of securing thereto diagonal braces 37 which form part of the underframe.

Projecting through the openings 38 between flanges 5—11 are center sills 39 which are here shown of channel shape in cross section, said center sills extending to relatively the same plane as the portion 12 before referred to and resting on the center sills, and on the portion 12 is a sill cover plate 40 which extends from back of the bolster preferably to the end sill 41.

It is to be observed that the web portion and flanged portions 1—2 extend slightly above the intermediate portion 12, thus providing a gap between the portion 12 and the cover plate immediately thereabove which gap is filled or approximately filled by the sill cover plate 40.

In this type of underframe the side sills 42 extend from the end sill 41 to a point slightly rearwardly of the bolster at its end and connected with the end portion of the bolster and with said end sills by suitable rivets are jacking plates 43 said jacking plates being provided with inwardly projecting shoulders 44 and elevated strengthening flanges 45.

Thus there is provided a two part cast metal bolster which is adapted to be separated horizontally for connection with an underframe previously assembled and the top cover plate and tank cradle may be secured in position without dismantling the car, the jacking castings being secured in position at the same time the short side sills are connected to the bolster.

By reason of the flat bearing afforded by the top flanges 12 of the center bearing, convenient means are provided for supporting the end portions of the center sills and

the side sills thereby providing against dropping of the end sill in service.

The top cover plate of this bolster is relatively I-shaped in cross section through the upstanding cradle members.

What is claimed as new is:—

1. In a car underframe, a bolster with a body portion formed in one integral casting with center filler provided with flanges for connection with center sills and a combined cover plate and tank cradle.

2. In a car underframe, a bolster with a body portion formed in one integral casting with center filler provided with flanges for connection with center sills and a combined cover plate and tank cradle riveted to horizontal flanges of said filler.

3. In a car underframe, a bolster with a body portion formed in one integral casting with center filler provided with flanges for connection with center sills and a combined cover plate and tank cradle riveted to longitudinally extending flanges on said body portion and to said center filler.

4. In a car underframe, a bolster with a body portion formed in one integral casting with center filler provided with flanges for connection with center sills and a combined cover plate and tank cradle riveted to longitudinal flanges on the bolster body and secured to the upper portion of said filler.

5. In a car underframe, a bolster with a body portion formed in one integral casting with center filler provided with flanges for connection with center sills and a combined cover plate and tank cradle with openings in the body and in the cover plate adapted to accommodate tank bands of different lengths.

6. In a car underframe, a body bolster adapted for repair work, a body portion with flanged center filler provided with flanges adapted for connection with center sills and with top flanged portion and a continuous cover plate adapted to be connected with said body portion and to said top flanged portion.

7. In a car underframe, a separable bolster, a top cover plate having longitudinally disposed timber pockets formed thereon by longitudinal and transverse ribs, and having intermediate strengthening ribs.

8. In a car underframe, a bolster having a separable cover plate having timber pockets therein and a plurality of longitudinal strengthening ribs between said pockets.

9. In a car underframe, a bolster having a separable cover plate having timber pockets therein and a plurality of longitudinal strengthening ribs between said pockets with perforations beyond said pockets.

10. In a car underframe, a bolster having a separable cover plate of cast metal with longitudinally extending timber pockets

therein and perforations beyond said pockets for tank bands.

11. In a car underframe, a bolster having a separable cover plate of cast metal with a relatively continuous horizontal portion and longitudinally extending elevated timber pockets thereon.

12. In a car underframe, a bolster having a separable cover plate of cast metal having horizontal flange adapted for connection with a flanged body portion and provided with timber pockets, and a center filler having vertical flanges for connection with center sills and connecting horizontal flange adapted for connection with the flange of said cover plate.

13. In a car underframe, a bolster having a cast metal separable cover plate with relatively horizontal flange and obliquely elevated timber pockets, and having lateral lugs adapted for connection with diagonal braces.

14. In a car underframe, a bolster having a cast metal body and separably formed cast metal cover plate with a vertically and horizontally flanged center filler adapted for connection with center sills and with said cover plate.

15. In a car underframe, a bolster having a cast metal body and separately formed cast metal cover plate with a vertically and horizontally flanged center filler adapted for connection with center sills and with said cover plate, said bolster having separately cast jacking members secured to side sills and to the ends of said bolster.

16. In a car underframe, a two part bolster comprising a body portion with integral webs, center filler with perimetrical flanges and tank band seats, a separately formed top cover plate having oblique timber sockets and secured to one flange of said center filler with separately formed side sills connected with said bolster body.

17. In a car underframe, the combination comprising center sills, end sill and short side sills of commercial shapes and a combined body bolster and tank cradle cast in two parts.

18. In a car underframe, the combination comprising a cast metal combined bolster and tank cradle divided horizontally, a center sill cover plate between the upper and lower bolster parts with continuous center sills riveted to the cover plate of said body bolster, to the sill cover plate and to vertical flanges of the body portion of said body bolster.

19. In a car underframe, a two part cast bolster divided horizontally with a flanged center filling integral with the lower part of said bolster and provided with a cover flange adapted to be connected with the upper part of the bolster.

20. In a car underframe, a two part cast

bolster divided horizontally with a flanged center filling integral with the lower part of said bolster and provided with a cover flange adapted to be connected with the upper part of the bolster said upper part comprising timber sockets and intermediate longitudinal flanges.

21. In a car underframe, a two part cast metal bolster with integral central filler, a sill cover plate secured to the upper face of said center filler, and center sills connected with said cover plate and filler.

22. In a car underframe, a two part cast metal bolster with integral center filler, a sill cover plate secured to the upper face or said center filler, and center sills connected with said cover plate and with parallel flanges on said filler.

23. In a car underframe, a two part cast metal bolster with integral center filler, a sill cover plate secured to the upper face of said center filler, a pin socket being formed in the lower portion of said filler and a center bearing with longitudinal marginal flanges integral therewith.

24. In an underframe, a two part cast bolster divided horizontally, a body portion with obliquely disposed tank band openings and provided with transverse openings intersecting the tank band openings.

25. In an underframe, a separable cast body bolster divided horizontally with relatively centrally disposed longitudinal flanges, end flanges for connection with side sills, a central flanged filler member adapted for connection with center sills, a separate sill cover plate and center sills connected therewith and with said filler flanges.

26. In a car underframe, a two part cast metal bolster divided horizontally, a longitudinal cover plate forming one of the members of said bolster, a center bearing strut member, center sills extending above said strut and a sill cover plate riveted to said center sills, strut and bolster cover plate.

27. In an underframe for cars, a two part cast metal bolster comprising a body portion and a cover plate with a center filler member of slightly less elevation than the body portion at the sides thereof, center sills between the center filler and other portions of the body and a sill cover plate substantially closing the gap between the top of the filler and the bolster cover plate.

28. In a car underframe, a cast metal body bolster having an integral center filler member provided with flattened upper face for connection with a sill cover plate.

29. In a car underframe, a separable cast metal body bolster having a body portion and a separately formed cover plate with an integral center filler member on the body portion provided with relatively horizontal upper face with a pin socket therebelow and

4
said pin socket having vertical flanges extending to said upper face portion.

30. In a car underframe, a horizontally separable cast metal body bolster having an
5 integral center filler member provided with vertical and horizontal flanges adapted for connection with a center girder, there being a pin opening with a pin socket extending
10 within the plane of said flanges, and reinforcing webs from said pin socket to said vertical flanges.

31. In a cast bolster, a body portion with side sill attaching flanges in combination with separately formed jacking members extending below said body portion and adapted to rest below said side sills. 15

In witness whereof I have hereunto set my hand in the presence of two witnesses.

JOHN McE. AMES.

Witnesses:

FRANK V. COOPER,
F. H. GIBBS.