

No. 878,595.

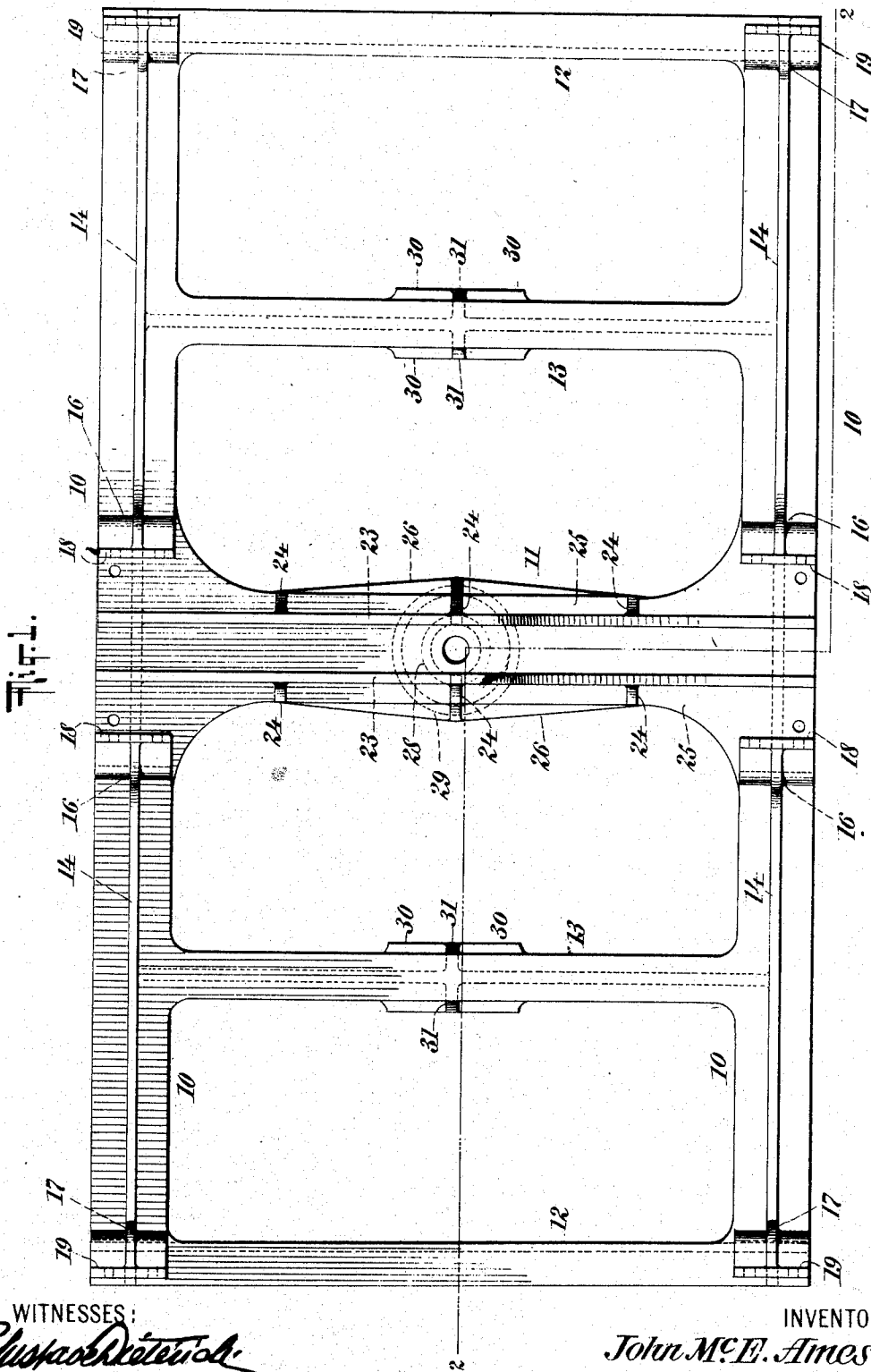
J. M^CE. AMES.

PATENTED FEB. 11, 1908.

DOUBLE BODY BOLSTER FOR RAILWAY CARS.

APPLICATION FILED APR. 5, 1907.

3 SHEETS—SHEET 1.



WITNESSES:

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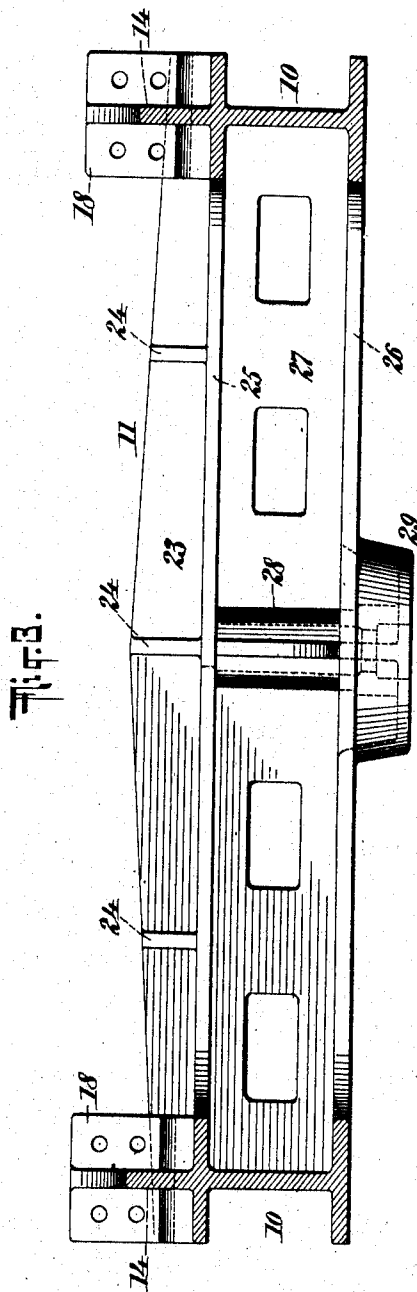
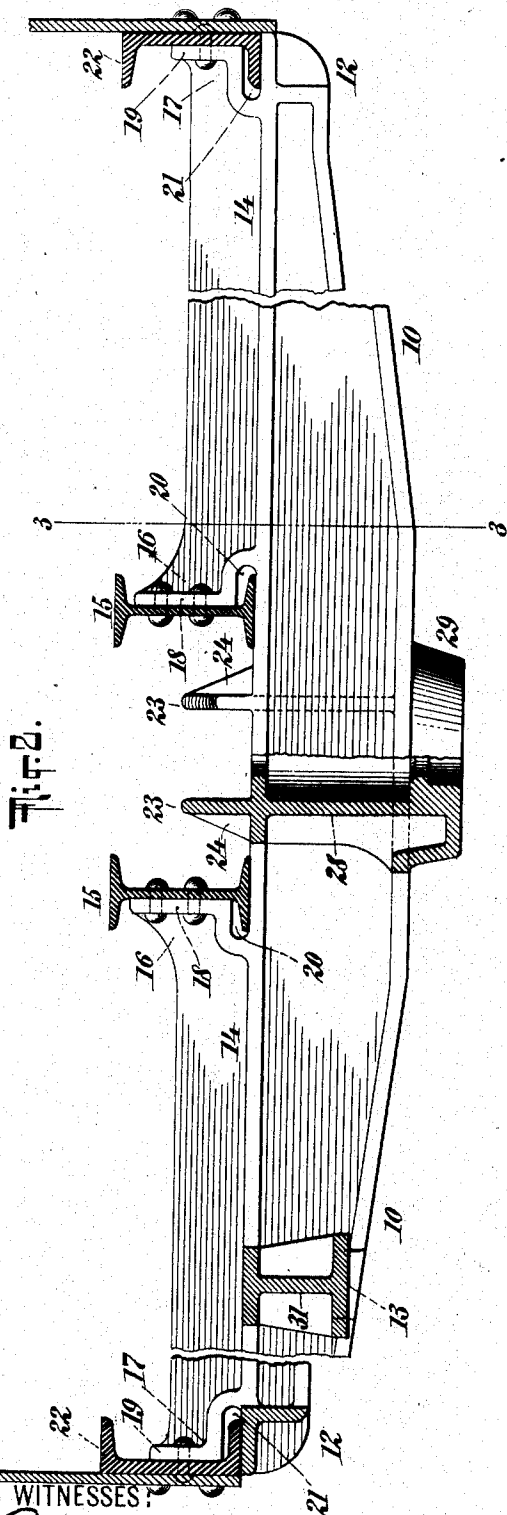
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DOUBLE BODY BOLSTER FOR RAILWAY CARS.

APPLICATION FILED APR. 5, 1907.

8 SHEETS—SHEET 2.



WITNESSES:

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No. 878,595.

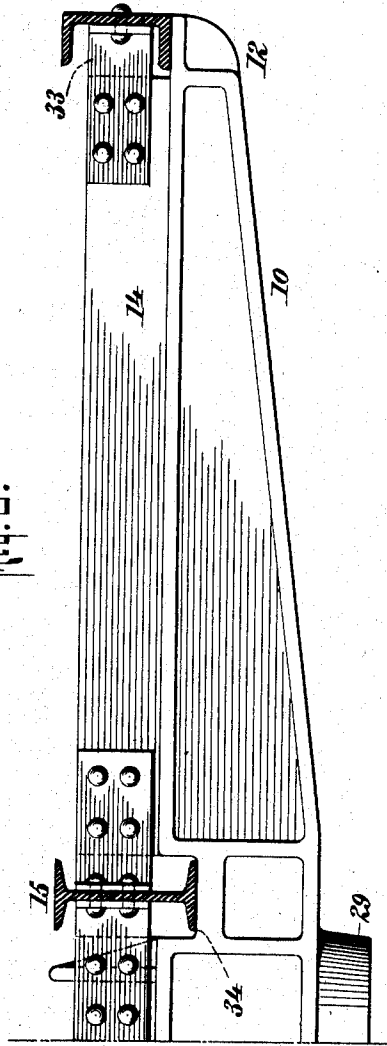
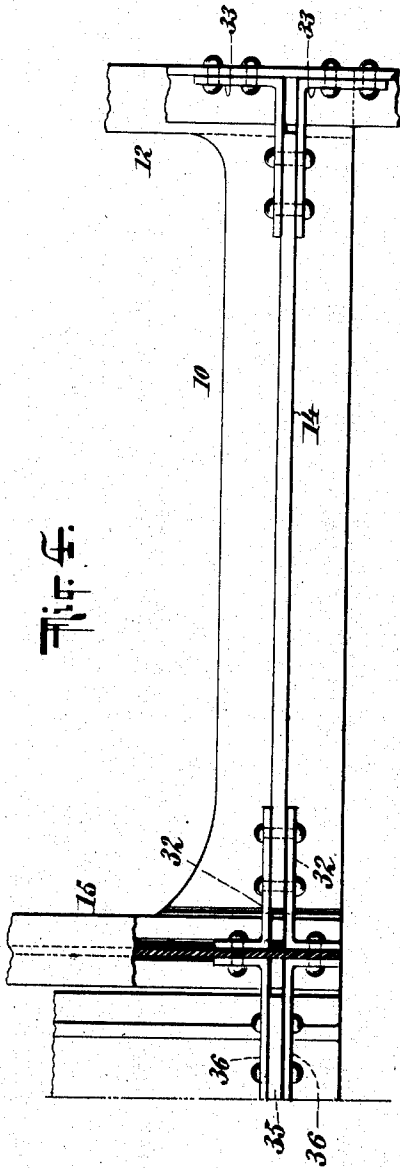
J. McE. AMES.

PATENTED FEB. 11, 1908.

DOUBLE BODY BOLSTER FOR RAILWAY CARS.

APPLICATION FILED APR. 5, 1907.

3 SHEETS—SHEET 3.



WITNESSES:

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UNITED STATES PATENT OFFICE

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

DOUBLE BODY-BOLSTER FOR RAILWAY-CARS.

No. 878,595.

Specification of Letters Patent.

Patented Feb. 11, 1908.

Application filed April 5, 1907. Serial No. 366,459.

To all whom it may concern:

Be it known that I, JOHN McE. AMES, a citizen of the United States, and a resident of Dongan Hills, in the county of Richmond, and State of New York, have invented certain new and useful Improvements in Double Body-Bolsters for Railway-Cars, of which the following is a specification.

The invention relates to improvements in double body-bolsters for passenger cars, and it consists in the novel features and structure hereinafter described and particularly pointed out in the claims.

The object of the invention is to provide a novel, easily constructed and entirely efficient double body-bolster in one integral casting adapted for passenger cars and enabling the use of structural beams for the center or draft sills and side sills in lieu of wooden center and side sills commonly used in the construction of passenger cars.

The invention will be fully understood from the detailed description hereinafter presented, reference being had to the accompanying drawings, in which:

Figure 1 is a top view of a cast double body bolster embodying my invention, the center and side sills being omitted; Fig. 2 is a side elevation, partly broken away, of same, one longitudinal half of the bolster being in central vertical section and the center and side sills being shown in position and in section on the bolster; Fig. 3 is a vertical transverse section through the bolster on the dotted line 3—3 of Fig. 2; Fig. 4 is a top view of about one-half of one side of the bolster and illustrates a modification in the method of securing the side and center sills to the bolster; and Fig. 5 is a side elevation of same, the side and center sills being in section.

In the drawings, 10 designates the side frames of the double body-bolster, 11 a central beam extending in line with the length of the car and connecting said side frames, 12 end beams connecting said side frames at their end portions and 13 beams connecting said side frames at points between the central beam 11 and end beams 12, the whole being in one integral casting and said side frames being approximately in their body portion of I-shape in cross-section and formed integrally upon their upper surfaces with the vertical flanges 14 which are integral with the side frames and extend between their central and end portions and not only ma-

terially strengthen the structure and increase its efficiency but afford means for the proper securing of the side sills and center or draft sills to the bolster.

The side frames 10 are deeper at their central than at their end portions and the upper horizontal flanges of said side frames are on about the same horizontal plane with the general upper surface of the central connecting beam 11, while the flanges 14 rise above the general horizontal upper surfaces of the beams 10 and are separated at their inner ends at each side of the bolster so as to receive between said ends the center or draft sills 15 (Fig. 2), the latter being rigidly connected with said flanges 14 and mounted upon said side frames.

In the construction shown in Figs. 1, 2 and 3 the ends of the flanges 14 are cast with elevated knee portions 16, 17, respectively, having laterally extending vertical flanges 18, 19, respectively, and forming below them and above the upper flanges of the side frames recesses 20, 21, respectively. The center sills 15 are shown in Fig. 2 as riveted to the flanges 18 of the knees 16 and, as illustrated, the recesses 20 receive the lower adjacent flanges of said center sills and enable the web of the sills to be brought flush against said flanges 18. The side sills 22 are flanged and riveted to the flanges 19 of the end knee portions 17, and the lower flanges of the side sills pass within the recesses 21 formed below said knee portions and rest upon the upper surface of the side frames.

The central connecting beam 11 has cast upon its upper surface the vertical web flanges 23 which extend from one end to the other of said beam and preferably cross the side frames 10, said flanges 23 being highest at their middle portions and thence tapering or inclining outwardly and downwardly toward their outer ends. The flanges 23 add greatly to the strength of the connecting beam 11 and to the bolster as a whole and they are stiffened by web flanges 24 connecting their sides with the upper surface of said beam 11. The connecting beam 11 comprises a main horizontal upper flange 25, a lower flange 26 and a vertical web 27 connecting these flanges, the whole forming approximately in cross-section a beam of I-shape whose ends are integral with the side frames 10, as represented in Fig. 3. Intermediate the flanges 25, 26 of the beam 11 is formed a

cylindrical section 28 for the usual center-pin, and centrally below the flange 26 is formed the body center-bearing 29.

The beams 12 connecting the end portions 5 of the side frames 10 are triangular in cross-section, as shown in Fig. 2, and the connecting beams 13 are preferably of I-shape in cross-section, as also shown in Fig. 2. At their central portions I preferably widen the 10 lower flanges of the beams 13, as at 30, and form vertical webs 31 connecting the members of said beams, thereby strengthening said beams 13 at their central portions.

The entire double body-bolster shown in 15 Figs. 1, 2 and 3 is formed in one integral casting and the flanges 14 have knee portions on their ends adapted to at once directly receive the center and side sills, and the said bolster has been designed with a view of se- 20 curing an efficient distribution of the metal throughout the same and of producing a structure capable of ready manufacture and of great strength and durability.

In Figs. 4 and 5 I illustrate a modification 25 of a portion of the invention, this modification being presented more particularly to indicate that I may omit the formation of the knee portions 16, 17 directly on the ends of the flanges 14 and connect the center and 30 side sills of the car with the ends of said flanges by means of angle-iron plates or knees 32, 33 riveted to the sills and to said flanges 14, as will be clearly understood from an inspection of Figs. 4 and 5 without fur- 35 ther detailed explanation. I also in Figs. 4 and 5 illustrate the side frames as formed with sunken seats 34 to receive the lower flanges of the center sills 15, this being de- 40 sirable in instances in which the distance permitted below the center sills is insufficient to enable said sills to be mounted directly upon the main upper horizontal portions of the side frames 10. In the construction 45 shown in Figs. 4 and 5 I may also carry the flanges 14 across the central portions of the side frames 10, as at 35, in order to make use of additional angle iron knees 36 riveted thereto and to the center sills 15 for more securely fastening the said sills.

50 What I claim as my invention and desire to secure by Letters-Patent, is:

1. A double body-bolster comprising two side frames and a central beam connecting the same, said side frames having at their 55 upper portions horizontal flanges affording seats for car center-sills and integral vertical flanges extending substantially the full length of said side frames from said center-sills outwardly and to the inner ends of 60 which vertical flanges said center-sills may be secured; substantially as set forth.

2. A double body-bolster comprising two side frames and a central beam connecting the same, said side frames having at their 35 upper portions horizontal flanges affording

seats for car side-sills and integral vertical flanges extending substantially the full length of said side frames from said central beam outwardly and to the outer ends of which flanges said side-sills may be secured; 70 substantially as set forth.

3. A double body-bolster comprising two side frames and a central beam connecting the same, said side frames having at their upper portions horizontal flanges affording seats 75 for car center-sills and side-sills and integral vertical flanges extending substantially the full length of said side frames from said center-sills to said side-sills and to the re- 80 spective ends of which flanges said center and side sills may be secured; substantially as set forth.

4. A double body-bolster comprising two side frames and a central beam connecting the same, said side frames having at their 85 upper portions horizontal flanges affording seats for car center-sills and integral vertical flanges extending substantially the full length of said side frames from said center-sills outwardly and formed integrally at 90 their inner ends adjacent to said central beam with laterally extended flanges to which the center-sills may be secured; substantially as set forth.

5. A double body-bolster comprising two 95 side frames and a central beam connecting the same, said side frames having at their upper portions horizontal flanges affording seats for car side-sills and integral vertical flanges extending substantially the full 100 length of said side frames from said central beam outwardly and formed integrally at their outer ends with laterally extended flanges to which the side-sills may be se- 105 cured; substantially as set forth.

6. A double body-bolster comprising two side frames and a central beam connecting the same, said side frames having at their upper portions horizontal flanges affording 110 seats for car center-sills and side-sills and integral vertical flanges extending substan- 115 tially the full length of said side frames from said center-sills to said side-sills and formed integrally at their ends with laterally extended flanges to which the center and side- 120 sills may be secured; substantially as set forth.

7. A double body-bolster comprising two side frames and a central beam connecting the same, said side frames having at their 120 upper sides integral vertical flanges formed integrally with laterally extended flanges elevated from the body of the side frames, to which lateral flanges the webs of the center and side sills may be secured and which may 125 receive below them the lower flanges of said sills; substantially as set forth.

8. A double body-bolster comprising two side frames and a central beam connecting the same, said side frames being adapted to 130

support flanged center-sills and having formed integrally therewith vertical laterally flanged knees to which the webs of said sills may be secured and below which the lower flanges of said sills may pass; substantially as set forth.

9. A double body-bolster comprising two side frames and a central beam connecting the same, said side frames being adapted to support flanged side-sills and having formed integrally therewith vertical laterally flanged knees to which the webs of said sills may be secured and below which the lower flanges of said sills may pass; substantially as set forth.

10. A double body-bolster comprising in one integral casting side frames and a central beam connecting the same and having integrally therewith the body center-bearing, said side frames and beam having upper horizontal flanges and vertical webs, and said side frames being correspondingly formed integrally with their upper flanges and at opposite sides of their center portions with vertical flanges extending lengthwise of said side frames and adapted at their facing ends to have metal center-sills secured thereto; substantially as set forth.

11. A double body-bolster comprising in one integral casting side frames and a central beam connecting the same and having integrally therewith the body center-bearing, said side frames and beam having upper horizontal flanges and vertical webs, and said side frames being correspondingly formed integrally with their upper flanges and at opposite sides of their center portions

with vertical flanges extending lengthwise of said side frames and formed on their facing ends with laterally extending flanges to the facing sides of which metal center-sills may be secured; substantially as set forth.

12. A double body-bolster comprising in one integral casting two side frames of I-form in cross-section and a central beam connecting the same and having integral therewith the body center-bearing and comprising upper and lower horizontal flanges and a vertical connecting web, said side frames affording seats for metal car-sills and being formed integrally with vertical laterally flanged knees to which the webs of said sills may be secured and below which the lower flanges of said sills may pass; substantially as set forth.

13. A double body-bolster comprising in one integral casting two side frames of I-form in cross-section and a central beam connecting the same and having integral therewith the body center-bearing and comprising upper and lower horizontal flanges and a vertical connecting web, said central beam having vertical flanges extending along its upper surface at opposite sides of its longitudinal center; substantially as set forth.

Signed at New York city, in the county of New York, and State of New York, this 4th day of April A. D. 1907.

JOHN McE. AMES.

Witnesses:

CHAS. C. GILL,
ARTHUR MARION.