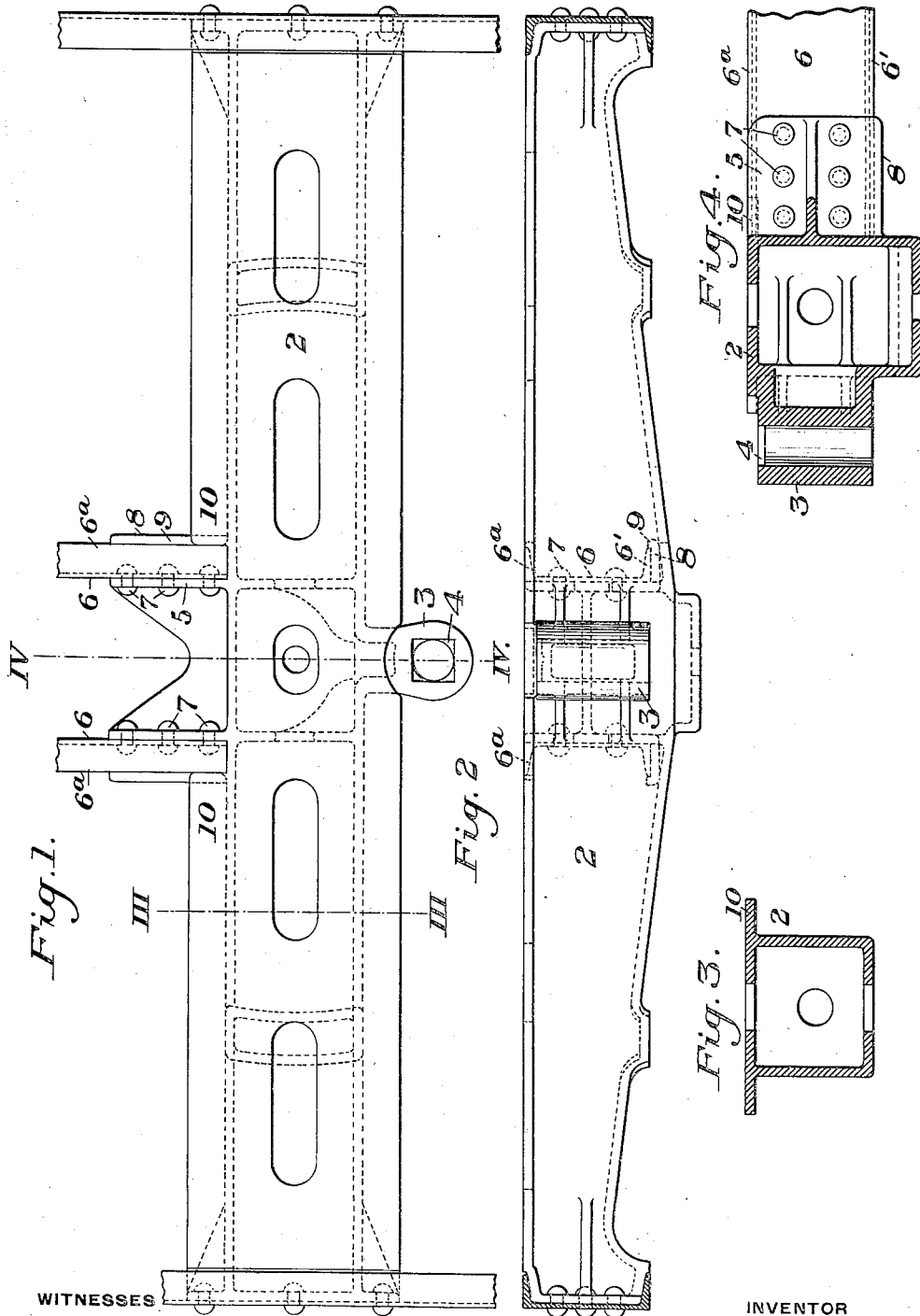


936,159.

H. F. POPE.
BODY BOLSTER FOR CARS.
APPLICATION FILED AUG. 6, 1908.

Patented Oct. 5, 1909.

4 SHEETS—SHEET 1.



WITNESSES

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4 SHEETS—SHEET 2.

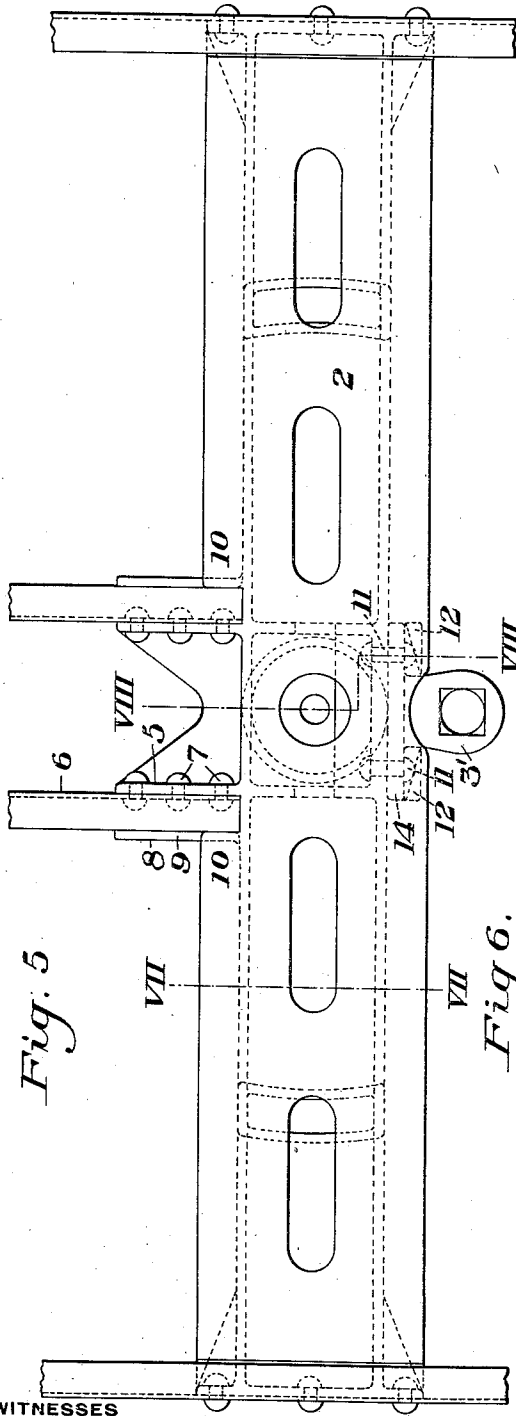


Fig. 5

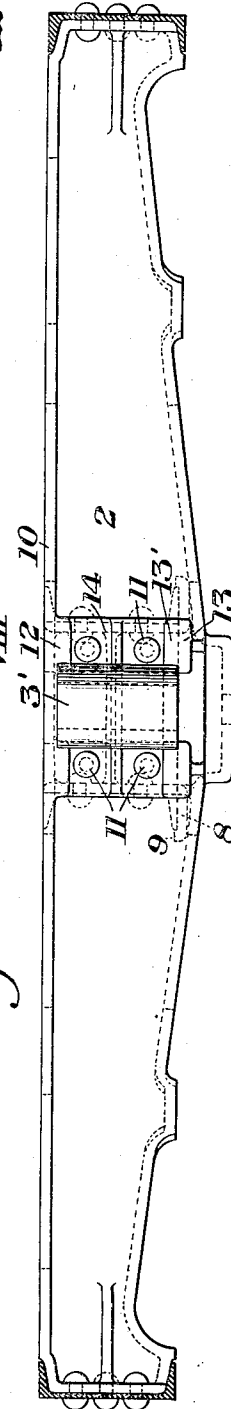


Fig. 6.

WITNESSES

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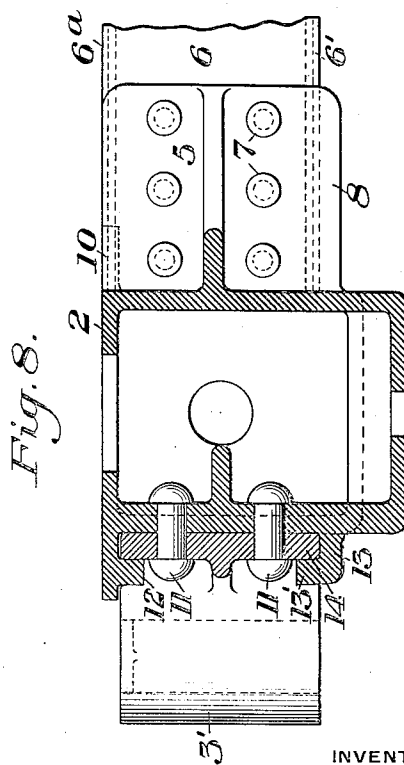
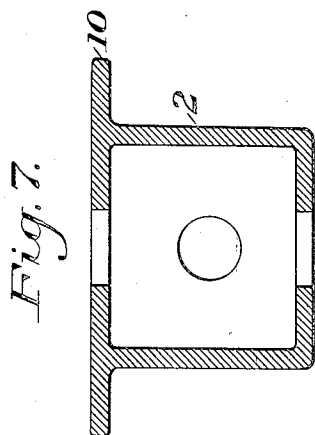
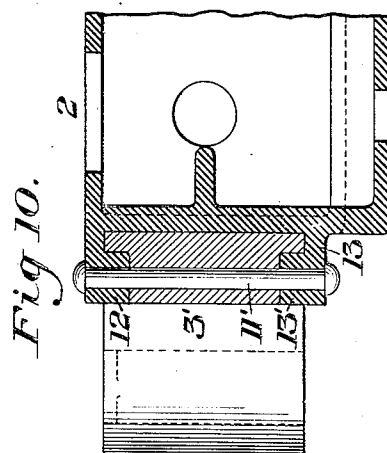
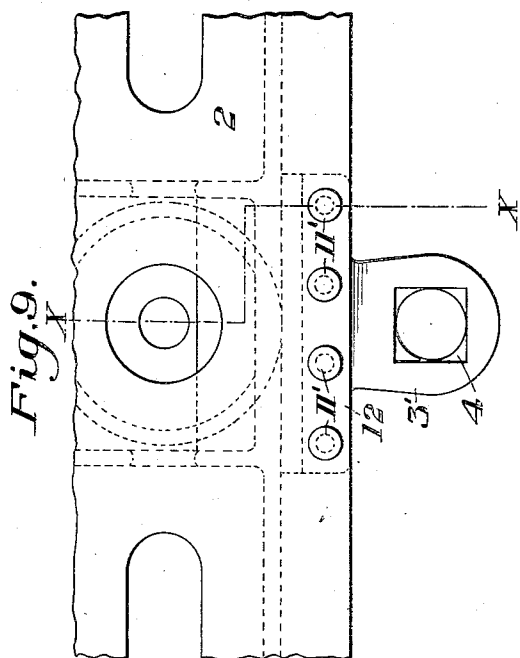
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4 SHEETS—SHEET 3.



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4 SHEETS—SHEET 4.

Fig. 13.

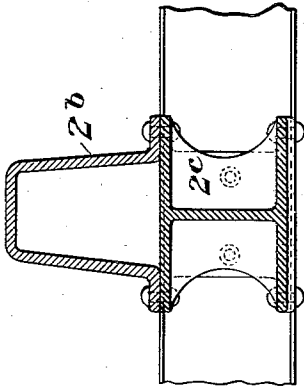
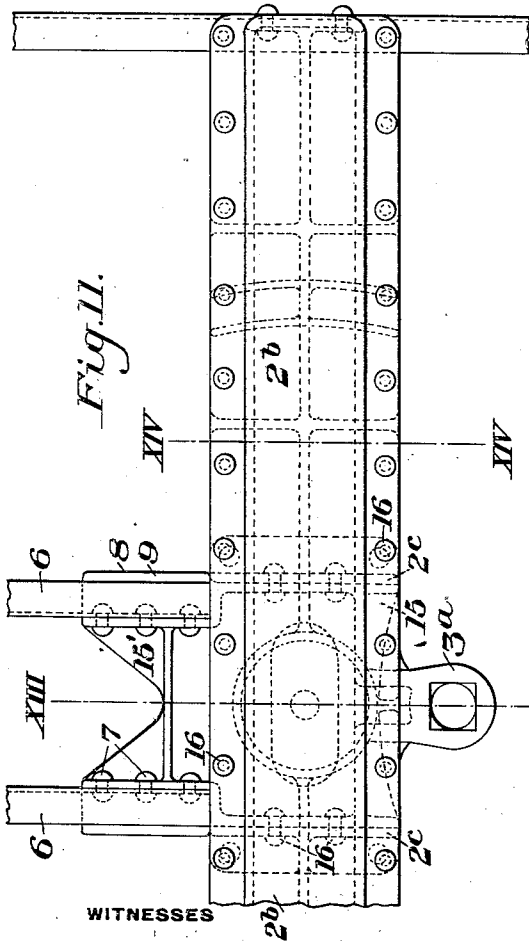
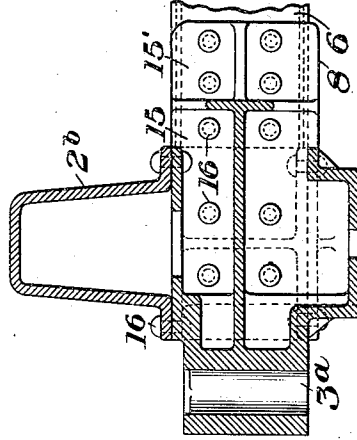


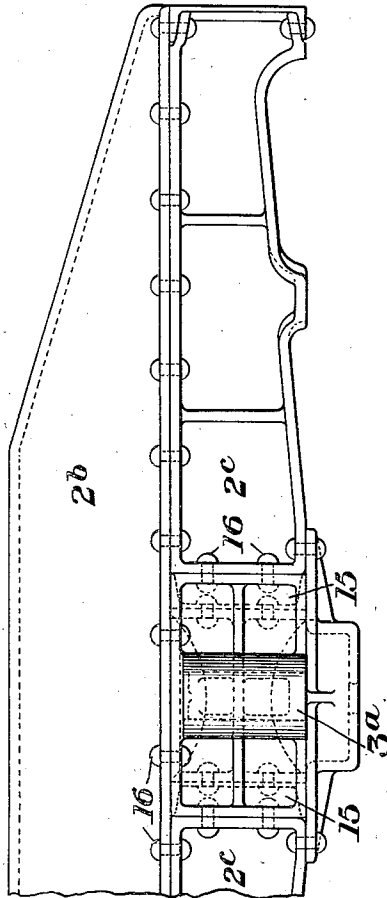
Fig. 14.



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Fig. 12.



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UNITED STATES PATENT OFFICE.

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BODY-BOLSTER FOR CARS.

936,159.

Specification of Letters Patent.

Patented Oct. 5, 1909.

Application filed August 6, 1908. Serial No. 447,307.

To all whom it may concern:

Be it known that I, HENRY F. POPE, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a new and useful Improvement in Body-Bolsters for Cars, of which the following is a specification, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a plan view of the bolster, showing portions of the center sill 6 secured thereto; Fig. 2 is a front elevation thereof; Figs. 3 and 4 are vertical cross-sections on the lines III—III and IV—IV, respectively; Fig. 5 is a plan view showing a modified construction of the bolster; Fig. 6 is a front elevation thereof; Figs. 7 and 8 are vertical cross-sections on the lines VII—VII and VIII—VIII of Fig. 5; Fig. 9 is a partial plan view illustrating a modification of the construction shown in Figs. 5 and 6; Fig. 10 is a vertical cross-section on the line X—X of Fig. 9; Fig. 11 is a plan view showing my invention modified and applied to a built-up bolster; Fig. 12 is a front elevation of Fig. 11; Figs. 13 and 14 are vertical cross-sections on the lines XIII—XIII and XIV—XIV of Fig. 11.

My bolster is especially useful in its application to radial draft gears for the purpose of dispensing with the center sills in advance of the rear face of the bolster. By making it possible thus to dispense with the center sills, so as to permit free lateral deflection of the draft gear in front of the bolster, the weight and cost of the car are reduced.

My invention also enables me to obtain a very substantial pivotal construction of the radial draft gear, because all of the buffing strains are transmitted through the bolster to the ends of the center sills, the latter being braced against lateral deflection by being attached to the bolster; whereas, heretofore the buffing strains have been transmitted through some attachment riveted or bolted to the center-sills or draft-timbers, the rivets and bolts being subject to shearing strains in service.

My invention is especially applicable to use with radial draft gears, but as defined in my broader claims it is not limited thereto; nor is it limited to a construction in which intermediate sills in front of the bolster are omitted, for intermediate pieces or sills be-

tween the bolster and end sill may be used in combination with radial draft gear pivoted to the bolster, without departing from my invention, for the buffing strains would still be transmitted by the draft gear 30 through the bolster to the ends of the center sills without danger of disruption by shearing of rivets or bolts.

Referring to Figs. 1-4 which show my invention in its application to a body bolster 65 made in a single piece and not of built-up sections, the bolster 2 has at the middle portion of its front face a lug 3 which is preferably cast integral with the bolster and is adapted for the pivotal attachment of the 70 radial draft gear. Having this purpose, it is preferably provided with an angular recess 4 for the reception of a bushing which receives the pivot pin of the draft gear and takes up the wear from the lug. The bush- 75 ing can readily be replaced when desired, and the lug can be made of substantial dimensions so that it will resist the strains which are put upon it without danger of breaking. 80

The bolster has, on its rear face, a middle rearward extension 5 which is of such shape and cross-sectional dimensions as to fit between the center sills 6, to which it is secured by rivets 7. This extension 5 has, at its 85 base, laterally extending flanges 8 with up-turned shoulders 9, which fit against lower flanges 6' of the center sills and thus retain the sills from outward deflection. The upper flange 10 of the bolster is cut away in 90 the middle and fits against the upper flanges 6" of the center sills so as to brace the sills laterally at the top.

When applied to the car, the radial draft gear is pivotally connected to the lug 3 and 95 the stresses of buffing are transmitted through the bolster to the ends of the center sills, the latter being held rigidly by their attachment to the bolster.

In the modification shown in Figs. 5-8, 100 instead of casting the lug 3' directly to the bolster as described above, I cast it in a separate piece and attach it to the bolster by rivets 11. In order to relieve these rivets from pulling strains, I provide the front 105 upper flange 10 of the bolster with a downwardly extending lip 12 and I provide the bolster at the lower portion of its front face with a lug 13 having a lip 13' which fits in front of the lateral flanges 14 of the lug 110

3'. In attaching the lug 3' to the bolster it is slipped sidewise so that the flanges 14 will pass behind the lips 12 and 13', and when adjusted in proper position the rivets 11 are inserted. By reason of this construction, if the lug 3' should break, it can readily be replaced, and its attachment to the bolster is very substantial because in addition to the hold of the rivets, it is secured by means of the lips 12 and 13'.

In the modification shown in Figs. 9 and 10, instead of using horizontal rivets 11, as shown in Figs. 5-8, I extend the lips 12 and 13' forwardly so as to provide room for vertical rivets 11' which pass through these lips and also pass through the lug 3'. This makes a stronger construction because the lips above mentioned can be made of more substantial size and the rivets are put in double shearing stress when the pull is exerted upon the draft gear, instead of having the stress put upon them in tension, as in the other construction.

In the modification shown in Figs. 11-14, I show my invention applied to a built-up body bolster of the type which is in common use on certain kinds of cars. In prior constructions of this kind the center sills are extended from one end sill to the other and pass through the body bolster so that the bolster has three principal members, namely, an upper member 2^b which is continuous from one end of the bolster to the other, and lower members 2^c which are made separate from the member 2^b and riveted thereto so as to afford an intervening space at the middle of the bolster through which the sills pass, a filler piece being interposed between the sills so as to complete the structure. In my invention, however, while I use the members 2^b and 2^c as above described, I do not extend the center sills forwardly beyond the rear face of the bolster, and the filler piece 15 which I employ fills the entire space between the ends of the members 2^c and is riveted to these members and to the upper member 2^b by means of rivets 16. The lug 3^a is cast integral with the filler piece 15 or may be attached to it by rivets or otherwise, and the rear extension 15' of the filler piece 15 back of the bolster is interposed between the center sills 6 and is riveted thereto in like manner as

above described with reference to Figs. 1 and 2. The advantages of this construction are similar to those which pertain to the other constructions above described, for the buffing blows are transmitted from the draft gear through the filler piece 15 directly to the ends of the center sills 6, which are held from lateral deflection by their attachment to the filler piece which forms part of the bolster.

My improved device may be modified in various ways by those skilled in the art without departure from my invention, as stated in the claims, since

What I claim is:—

1. A car bolster having at its rear side an attachment for a center sill, and a pivot lug for a draft gear on the front side of the bolster.

2. A bolster for cars, in combination with a center sill attached to the bolster and terminating at the bolster, and a forwardly projecting pivotal connection with a draft gear on the bolster.

3. A car bolster having top flanges, center sills abutted against the bolster and secured thereto, the top flange being recessed to confine the center sills laterally.

4. A car bolster having at its rear face a middle rearward extension, center sills between which said extension fits, said extension having flanges which confine the outer sides of the center sills.

5. A car bolster having center sills abutted against the bolster, an intermediate portion of the bolster interposed between the center sills, and a lug on the forward portion of the bolster for pivotal connection to a draft gear.

6. A car bolster having on its forward side a lug for pivotal connection to a draft gear, and a recess for bushing in the lug.

7. A car bolster having on its front face a recess for a detachable lug, and a pivotal lug for a draft gear inserted in said recess and fixed therein.

In testimony whereof, I have hereunto set my hand.

HENRY F. POPE.

Witnesses:

HARRY T. KROKAW,
HARRY E. ORR.