

No. 812,313.

PATENTED FEB. 13, 1906.

E. C. WASHBURN.  
CAST TRUCK BOLSTER.  
APPLICATION FILED MAR. 25, 1905.

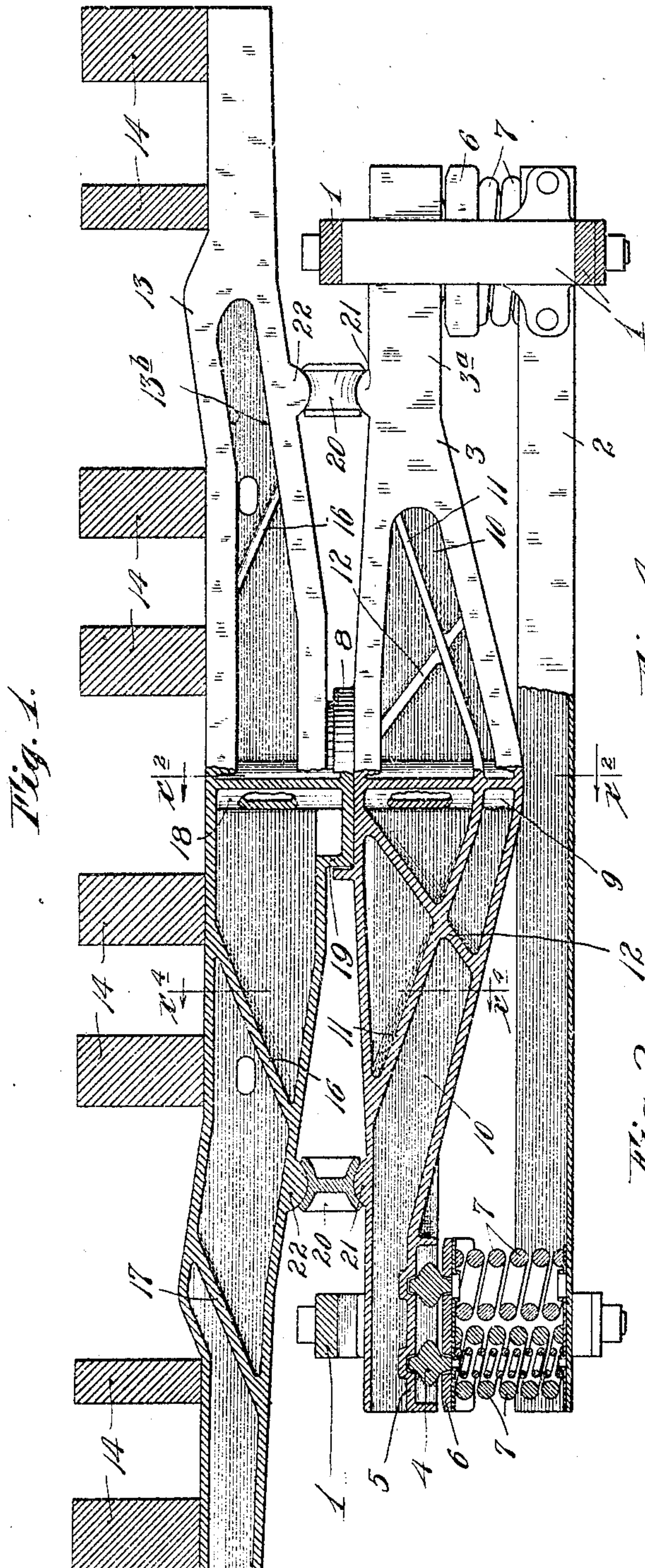
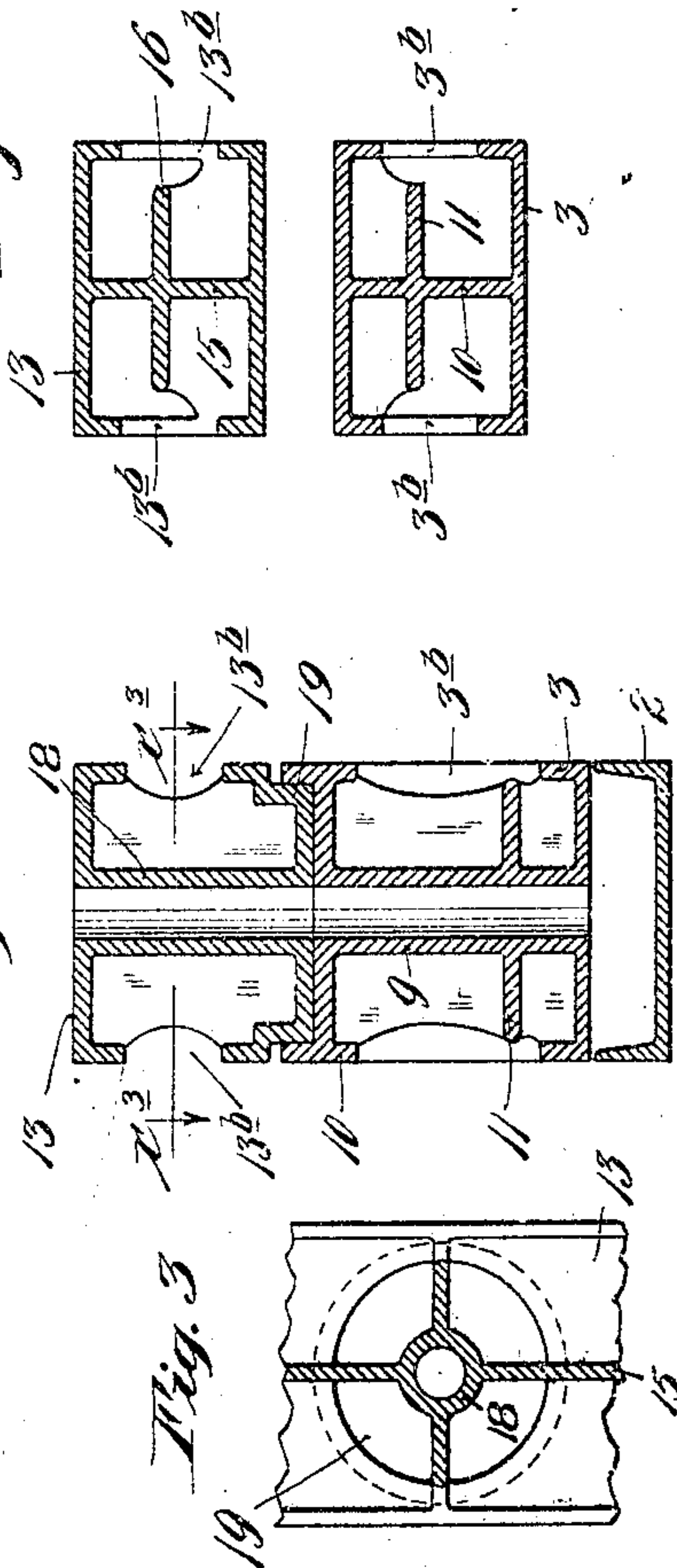


Fig. 1.

Fig. 4.

Fig. 2.

Fig. 3.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

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## CAST TRUCK-BOLSTER.

No. 812,313.

Specification of Letters Patent.

Patented Feb. 13, 1908.

Application filed March 25, 1905. Serial No. 251,948.

*To all whom it may concern:*

Be it known that I, EDWIN C. WASHBURN, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Cast Truck-Bolsters; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to cars, and has for its especial object an improved cast truck-bolster.

To this end the invention consists of the novel devices and combination of devices hereinafter described, and defined in the claims.

In the accompanying drawings, which illustrate my invention, like characters indicate like parts throughout the several views.

Figure 1 is a view showing my invention applied to a car, the parts being shown chiefly in transverse vertical sections, but some parts being shown in elevation. Fig. 2 is a vertical section taken on the line  $x^2 x^2$  of Fig. 1. Fig. 3 is a horizontal section taken on line  $x^3 x^3$  of Fig. 2, and Fig. 4 is a vertical section taken on line  $x^4 x^4$  of Fig. 1.

The numeral 1 indicates the trussed side frames of the car-truck, which side frames are indicated by a transom 2.

The numeral 3 indicates as an entirety the truck-bolster, which at its ends is supported from the side frames, with freedom for limited lateral movement, preferably and as shown by "lateral-motion devices" of the character set forth and claimed in a companion application filed of even date herewith, "Lateral-motion devices for car-trucks." Briefly described, these lateral-motion devices comprise flattened rollers 4, that are arranged in pairs and are interposed between flat bearing-surfaces 5 on the ends of the bolster and flat bearing-plates 6, that are mounted to move vertically on the bolster-columns of the truck-frame and are supported from said frame by springs 7. At its central portion and at its upper surface truck-bolster 3 is formed with an annular flange 8, that affords one member of a center bearing. Extending downward through the bolster 3, in a line with the axis of the flange 8, said bolster is formed with an internal bearing-sleeve 9. Said bolster 3 from its central portion toward its ends tapers in a vertical plane, and the re-

duced end portions thereof are preferably formed with depending side flanges 3<sup>a</sup>, that extend below and on opposite sides of the flat bearing-surfaces 5, and thus reinforce said end portions. The interior of the bolster 3 is cast hollow, but is formed with a vertical longitudinally-extended central web 10. From the opposite faces of the web 10 are integrally cast reinforcing-ribs 11 and 12, that cross each other. The ribs 11 act in tension, while the ribs 12 act in compression under the weight of the load on bolster. The outside webs of the bolster 3 are cut away at 3<sup>b</sup>, thus lightening the structure without materially weakening the same.

It is obvious that under the weight of the load on the truck-bolster its upper portion acts in compression, while its lower portion acts in tension. The reinforcing-ribs 11, it will be noted, extend approximately parallel to the inclined lower web portion of the bolster, so that they very materially strengthen the bolster and, in fact, make unnecessary the use of reinforcing tension-ribs, such as are frequently employed. The reinforcing-ribs 12 act in compression to transfer a portion of the strain of the load from the center bearing radially outward to the lower portion of the bolster.

The numeral 13 indicates as an entirety an integrally-cast body-bolster, which, as is usual, is radially secured by bolts or other suitable devices (not shown) to the car-timbers 14. This body-bolster, like the truck-bolster, is cast hollow and is formed with a centrally longitudinally extended web 15 from the opposite sides of which project reinforcing-ribs 16 and 17. Also the side webs of the body-bolster 13 are cut away at 13<sup>b</sup>. At its central portion the body-bolster 13 is formed with an integral vertically-extended sleeve 18, that is adapted to register with sleeve 9 of the truck-bolster, so that a king-bolt (not shown) may be passed through the two alined sleeves.

Integrally cast with and depending from the lower web of the body-bolster 13, surrounding the lower portion of the sleeve 18, is a hub 19, that fits within the flanges 8 of the truck-bolster 3 and constitutes the other member of the center bearing.

As shown, side bearings substantially of the form set forth and claimed in a companion application filed by me of even date herewith and entitled "Side bearing for car-



trucks" are interposed between the two bolsters. Of the portions of the said side bearings it is only necessary to note the concave rollers 20 and the guide-ribs 21 and 22, cast, respectively, on the bolsters 3 and 13.

From what has been said it will be understood that the device as described is capable of modification within the scope of my invention as herein set forth and claimed.

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. A hollow cast bolster having outwardly-converging upper and lower web portions and having a central longitudinal and vertically-extended web formed with a reinforced rib that extends approximately parallel to the lower web of said bolster and unites with

the upper web thereof, substantially as described.

2. A hollow cast truck-bolster having outwardly - converging upper and lower webs and having the vertical longitudinally - extended central web 10 provided on its opposite faces with the transversely-extended reinforcing-ribs 11 and 12, said ribs 11 extending approximately parallel with the bottom web of said bolster and the said rib 12 extending from the top web to the bottom web of said bolster.

In testimony whereof I affix my signature in presence of two witnesses.

EDWIN C. WASHBURN.

Witnesses:

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