





# UNITED STATES PATENT OFFICE.

EDWARD S. MARSHALL, OF ST. LOUIS, MISSOURI.

## TRUCK-BOLSTER.

SPECIFICATION forming part of Letters Patent No. 622,055, dated March 28, 1899.

Application filed August 6, 1898. Serial No. 688,006. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD S. MARSHALL, a citizen of the United States, residing at the city of St. Louis, State of Missouri, have invented a certain new and useful Improvement in Truck-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, forming part of this specification, in which—

Figure 1 is a top plan view of my improved truck-bolster. Fig. 2 is a side elevational view of the same, one end being shown in section. Fig. 3 is a bottom plan view of the same; and Fig. 4 is an enlarged detail sectional view on line 4 4, Fig. 1.

This invention relates to a new and useful improvement in truck-bolsters, the object being to construct a bolster of malleable iron or cast-steel, having in view simplicity, strength, and cheapness.

The special features of this invention reside in the construction of the bolster proper with its strengthening-webs.

Another feature resides in the novel construction and method of adjustment of the center bearing, and, further, other features of invention reside in the construction and method of adjustment of the truss-rods, and, finally, the invention consists of the construction, arrangement, and combination of the several parts, all as will hereinafter be described and afterward pointed out in the claims.

In the drawings, A indicates the side walls of the bolster, which are provided with guiding ribs or projections *a* near each end of the bolster to engage the column bolt-guides, as is usual.

B indicates the top wall of the bolster, which is preferably crowned at its central portion to give it strength, said top wall being bent down or formed with a shoulder *b* near the ends of the bolster. The top and side walls form a structure which is substantially of an inverted-U form.

C indicates lugs or bearings rising from the top wall B, in which are mounted side bearing-blocks D, said side bearing-blocks being adapted to turn in their bearings to present

faces of different height to the side bearings of the body-bolster. These side bearings and their method of adjustment form no part of this application, as the same form the subject-matter of Patent No. 587,132, dated July 27, 1897.

E indicates a concentric series of projections rising from the face of the top wall B, said projections being preferably radially disposed, as shown in Fig. 1.

F indicates a removable center bearing formed with a central perforation registering with an opening in wall B for the passage of the king-bolt. (Not shown.) This center bearing F is dished and adapted to fit between the projections E, which projections E hold it in place. In order to prevent rotary movement of the center plate or bearing F, I provide one or more notched projections *f* in the notch or notches, of which one or more of the projections E are adapted to fit, locking the center plate in position. This construction permits a rotary adjustment of the center bearing, which is desirable sometimes by reason of the center bearing on the car-body unduly wearing plate F on one side, when said plate may be rotated a quarter-turn, presenting practically new wearing-faces for its companion piece on the body-bolster.

At any time that it is desirable to adjust the center bearing on the truck-bolster the car-body is jacked up, so that a washer (shown in dotted lines in Fig. 4) may be arranged under the center plate to elevate the same.

The bolster is strengthened by webs or ribs. (Shown more clearly in Fig. 3.) I prefer to arrange transversely-disposed ribs G to strengthen the bolster under the center bearing, said ribs G also affording a support for the truss-rods, to be hereinafter described. Centrally-disposed ribs H extend from cross-ribs G to the ends of the bolster, and parallel ribs I are arranged on each side of the ribs H at the ends of the bolster to give the bolster strength at a point where a spring-seat is located. These ribs H and I have their lower edges on about the same horizontal plane as projections or ribs J on the inner faces of the side walls A at the ends of the bolster. This is to afford a firm bearing for a spring-seat (not shown) which is placed in position under



the bolster between the side walls and end wall, said spring-seat affording a bearing for the bolster-springs.

K indicates what I term "truss-rods," which  
 5 truss-rods are preferably formed of flattened metal, as shown in the drawings, their ends projecting through suitable openings in the shoulders *b* of the top wall, beyond which they receive tapered pins *k*. If at any time  
 10 these truss-rods become slack, due to the tensile strain to which they are subjected, a blow on the tapered pins will take up said slack or stretch. Both ends of the truss-rods are locked in position and the stretch is taken up  
 15 by these tapered pins.

I am aware that many minor changes in the construction, arrangement, and combination of the several parts of my bolster can be made and substituted for those herein shown  
 20 and described without in the least departing from the nature and principle of my invention.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination with a bolster, of a concentric series of projections on its upper face, and a removable center plate, or bearing, which is held in position by said projections,  
 30 said center plate, or bearing, being provided with means for engaging with one or more of said projections, substantially as described.
2. The combination with a bolster, of a concentric series of projections rising from its  
 35 upper face, said projections being radially disposed, of a center plate, or bearing, which is received within said projections, and a notched lug, or lugs, extending laterally from said plate, or bearing, for engaging one or  
 40 more of said bolster projections, substantially as described.

3. The combination with a bolster formed with a series of projections adapted to engage a center plate, or bearing, of a removable center plate, or bearing, provided with means for  
 45 engaging one or more of said projections for locking said center plate, or bearing, in a rotary adjusted position, and means for elevat-

ing said center plate, or bearing, substantially as described.

4. The combination with an inverted-U-shaped bolster, of transversely-disposed webs for strengthening the same at its middle portion, centrally-located, longitudinally-disposed webs extending from said transverse  
 55 webs to the ends of the bolster, and parallel webs on each side of said central webs at the ends of the bolster, substantially as described.

5. The combination with a bolster formed with ribs, or projections, on its side walls  
 60 and near its ends, and strengthening-webs arranged between said projections, and strengthening-webs affording a firm seat for a spring-plate, substantially as described.

6. The combination with a bolster, of truss-  
 65 rods for the same which project through the upper wall of said bolster, and terminate short of the ends of said bolster, substantially as described.

7. The combination with a bolster formed  
 70 with shoulders in its upper wall and near its ends, of truss-rods which project through said shoulders, and means for securing said truss-rods, substantially as described.

8. The combination with an inverted-U-  
 75 shaped bolster, formed with shoulders on its upper face and near its ends, of a truss rod, or rods, whose ends project through said shoulders, and means for taking up the slack or stretch in said truss rod, or rods, substan-  
 80 tially as described.

9. The combination with a bolster formed with shoulders on its upper face and near its ends, truss-rods whose ends project through  
 85 said shoulders, tapered pins for securing said truss-rods in position, and interior webs, said webs affording bearings for the middle portions of said truss-rods, substantially as described.

In testimony whereof I hereunto affix my  
 signature, in the presence of two witnesses,  
 this 22d day of July, 1898.

EDWARD S. MARSHALL.

Witnesses:

F. R. CORNWALL,  
 HUGH K. WAGNER.