(No Model.)

2 Sheets—Sheet 1.

J. C. WANDS.

CAR BOLSTER.

No. 548,858. Patented Oct. 29, 1895.

Fig. 1

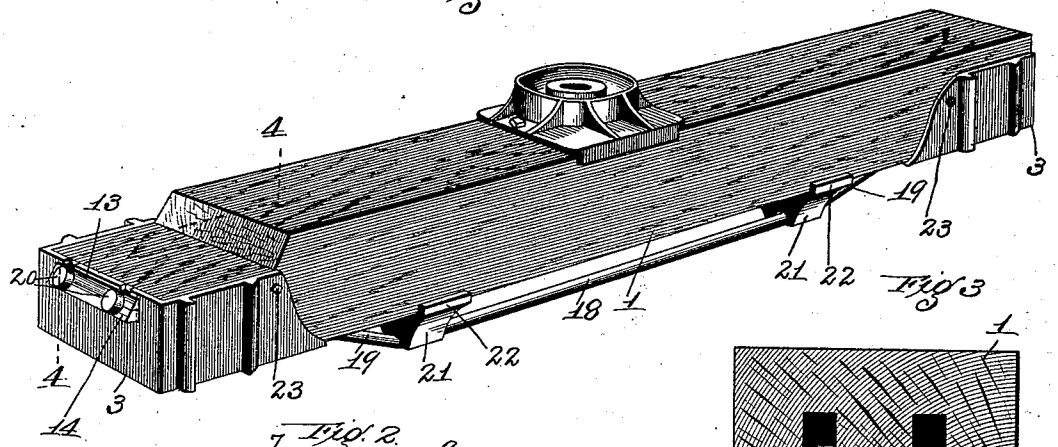


Fig. 3

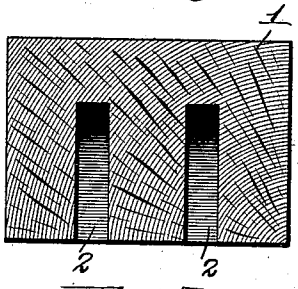


Fig. 2

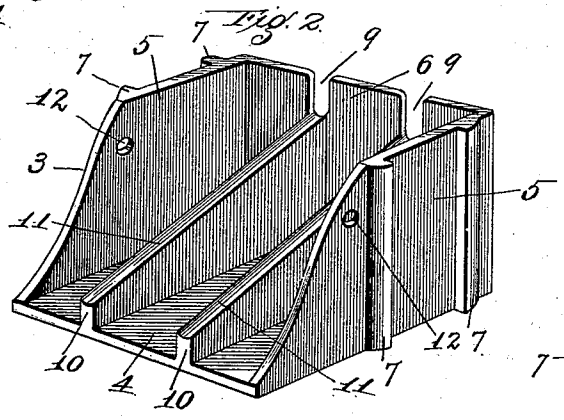


Fig. 5

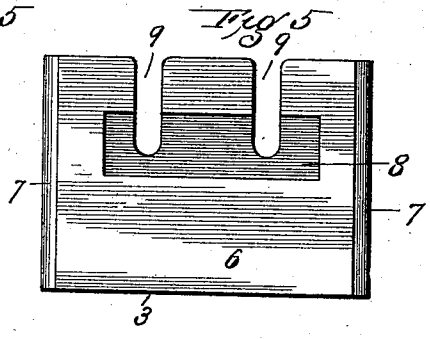


Fig. 4

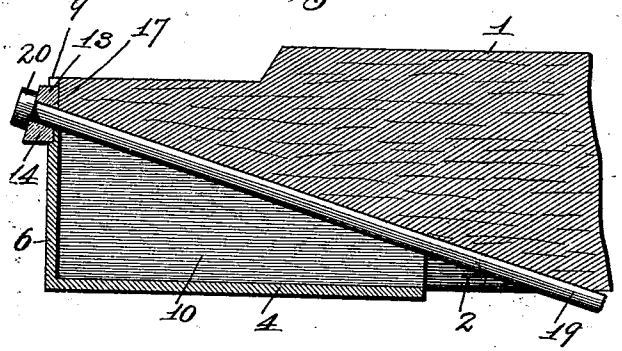
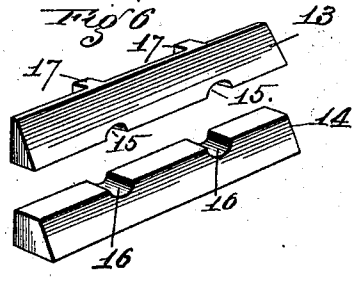


Fig. 6



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Attys.

(No Model.) 2 Sheets—Sheet 2.

J. C. WANDS.

CAR BOLSTER.

No. 548,858. Patented Oct. 29, 1895.

Fig. 7

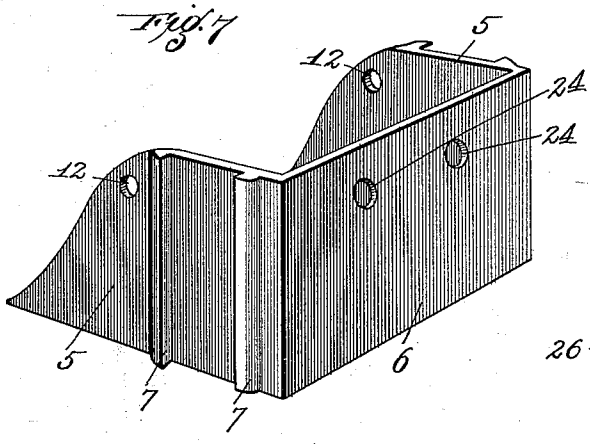


Fig. 8

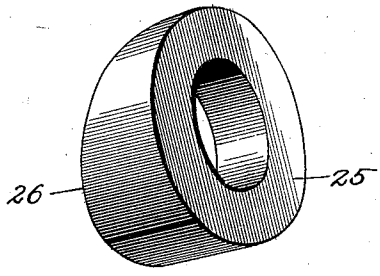


Fig. 9

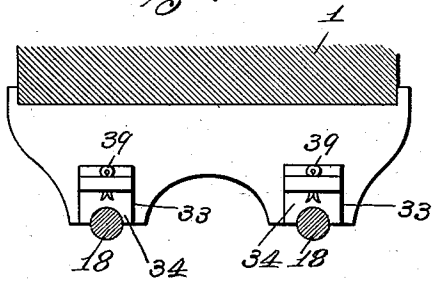


Fig. 10

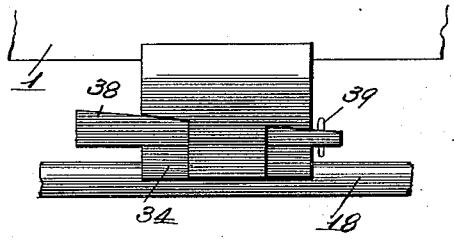


Fig. 11

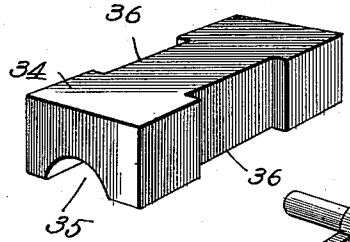


Fig. 12

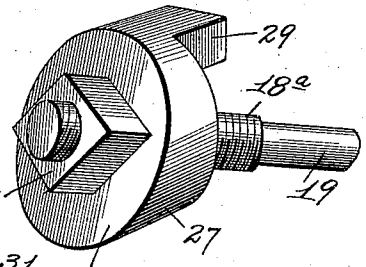
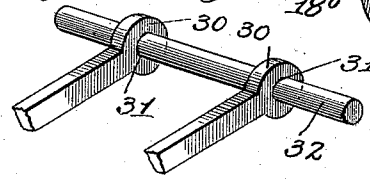


Fig. 13



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UNITED STATES PATENT OFFICE.

JOHN C. WANDS, OF ST. LOUIS, MISSOURI.

CAR-BOLSTER.

SPECIFICATION forming part of Letters Patent No. 548,858, dated October 29, 1895.

Application filed August 12, 1895. Serial No. 559,040. (No model.)

To all whom it may concern:

Be it known that I, JOHN C. WANDS, of the city of St. Louis, State of Missouri, have invented certain new and useful Improvements in Car-Bolsters, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to an improved car-bolster; and it consists in the novel construction, combination, and arrangement of parts hereinafter described and claimed.

In the drawings, Figure 1 is a view in perspective of a bolster constructed in accordance with my invention. Fig. 2 is a view in perspective of one of the metallic boxes, such as is located upon the ends of my improved bolster. Fig. 3 is an end view of the timber of which my improved bolster is constructed, said view showing the kerfs located in said timber. Fig. 4 is an enlarged sectional view taken approximately on the indicated line 4 4 of Fig. 1. Fig. 5 is a front elevation of one of the metallic boxes that is located upon the ends of my improved bolster. Fig. 6 is a view in perspective of the mating portions of a washer-block, such as I use in my improved bolster. Fig. 7 is a view in perspective of a modified form of the metallic box of which I make use. Fig. 8 is a view in perspective of a washer used when the bolster is constructed with the modified form of metallic box seen in Fig. 7. Fig. 9 is a front view of one of the saddles made use of in my improved bolster. Fig. 10 is an end elevation thereof. Fig. 11 is a view in perspective of one of the bearing-blocks used in the saddle. Fig. 12 is a view in perspective of a washer that may be used in place of the washer-block seen in Fig. 6, if desired. Fig. 13 is a view in perspective of a modified form of the means I employ to lock or hold the ends of the truss-rods of my improved bolster.

Referring by numerals to the accompanying drawings, 1 indicates the timber of which my improved bolster is constructed, and in the ends and lower sides of said timber are formed kerfs 2, the same extending diagonally upward from points on the under side of said timber to points on the ends of said timber slightly above the vertical center thereof.

3 indicates one of the metallic boxes, such as is located on each end of the timber 1, said box comprising the bottom 4, integral side walls 5, and end 6, said side walls and end being arranged vertically relative to the bottom 4. The ends of the side walls 5 opposite from the ends that join with the end 6 are curved downwardly from the tops to said bottom 4, and formed integral with the outer faces of said sides 5 are parallel flanges 7, which perform the function of column-guides.

Formed in the front face of the end 6 and horizontally arranged therein is a rectangular recess 8, the same being in a plane slightly above the vertical center of said end 6. Formed in the end 6 and extending from points adjacent the ends of this recess 8 to the top edge of said end 6 are vertical slots 9.

10 10 indicate ribs or walls that are formed integral with the top face of the bottom 4 and with the inner face of the end 6, and said walls extend from the lower ends of the vertically-arranged slots 9 in said end wall downwardly to the edge of the bottom 4. Concaved grooves 11 are formed in the top edges of these walls or ribs and extend the entire length thereof.

Formed in the side walls 5 adjacent the forward edges thereof is a pair of horizontally-aligned apertures 12.

The washer-block of which I make use comprises the mating portions 13 and 14, the same being of such a size as that when they are properly put together they will lie within the recess 8, formed in the face of the end 6. When said mating portions 13 and 14 are together, the plate in cross-section is in the form of an inverted wedge, and semicircular notches 15 are formed in the lower edge of the top half 13 of said plate and coincide with semicircular notches 16, formed in the lower half 14 of said plate. The apertures formed by these coinciding semicircular notches are in direct alignment with the lower ends of the vertical slots 9, and formed on the inner face of the mating part 13 are rectangular lugs 17, that are immediately above the semicircular notches 15, and when the plate is properly positioned these lugs 17 extend through the slots 9 in the end 6.

18 18 indicate ordinary truss-rods, the ends 19 of which are bent upwardly and extend

through the kerfs 2 in the end of the timber 1, and said upwardly-bent ends 19 rest directly upon the top edges of the walls 10 of the boxes 3 when said boxes are properly positioned upon the ends of said timber. Heads 20 are fixed on the ends of the upwardly-turned portions 19 of these truss-rods, and said heads engage directly upon the outer faces of the mating parts of the washer-plates when the same are positioned in the recesses on the outside faces of the ends 6 of the boxes. Ordinary saddles 21 are arranged between the truss-rods 18 and the timber 1, the outer ends 22 of said saddles being turned upwardly to engage the side faces of said timber 1. Bolts 23 are passed through the coinciding apertures 12 in the boxes 3 to assist in more rigidly holding said boxes in proper position.

In the form of the box shown in Fig. 7 the vertical slots 9 are dispensed with and apertures 24 are formed in the end 6 of the box 3 in such positions as that the ends of the truss-rods 18 protrude from the kerfs 2 and will pass therethrough. When this construction is used, removable nuts must be located upon the truss-rods 18 at one end, and washers, such as 25, having beveled inner faces 26, are made use of in place of the washer-plates previously described.

In some instances the washer-plates seen in Fig. 6 are dispensed with and washers 27, constructed with a beveled face 28 and an integral lug 29, made use of. In this instance the ends of the truss-rods 18 are screw-threaded, as indicated by 18^a, and nuts 18^b are located upon said screw-threaded ends. The lugs 29 in this case pass through the vertical slots 9 and engage directly against the ends of the timber 1.

A further modification of the fastening for the ends of the truss-rods is shown in Fig. 13, in which the ends of said truss-rods are constructed with integral heads 30, in which are formed horizontally-aligned apertures 31, said heads when properly positioned protruding through the apertures or slots in the ends 6 of the boxes 3. A bolt or pin 32 is passed through these coinciding apertures in the heads 30 and thus very effectually hold and lock said truss-rods in position.

In the modified form of the saddle seen in Figs. 9 and 10 rectangular recesses 33 are formed in the under side of said saddle, and rectangular blocks 34, having concaved grooves 35 extending longitudinally in their lower faces, are arranged to move vertically in said rectangular recesses 33. Recesses 36 are formed in the sides of these blocks 34 and form guides for the downwardly-pending portions of the saddles. Wedges, such as 38, are introduced between the saddles and the movable bearing-blocks 34, and passing through the smaller ends of said wedges are keys 39, the same preventing the withdrawal of the wedges after they have been properly positioned.

In putting together the preferred form of my improved bolster the truss-rods 18, having the fixed heads thereon, are first positioned so that the bent ends 19 of said truss-rods pass through the kerfs 2 formed in the ends of the timber 1 and said fixed heads protrude from the ends of said timber. The metallic boxes 3 are now arranged upon the ends of said timber in such a manner as that the flanges or walls 11 pass into the kerfs 2 and engage directly against the bent ends 19 of said truss-rods. The bolts 23 are now passed through the coinciding apertures 12 and the timber 1, and after which the mating portions 13 and 14 of the washer-plates are arranged around the protruding ends of the truss-rods 18 and in the recesses 8 formed in the ends 6. The ordinary saddles 21 are now interposed between the truss-rods 18 and the under side of the timber 1 and by any suitable means are moved outwardly toward the ends of said timber 1 until the tension of the truss-rods is sufficient to very tightly lock the mating portions of the washer-plates together and within the recesses 8. When said saddles have been moved to the position desired, suitable wedges or nails may be used to retain said saddles.

When the modified form of the saddle is made use of, the same is interposed between the truss-rods 18 and the timber 1 in such a manner as that the bearing-blocks 34 rest directly upon said truss-rods. The wedges 38 are now driven between said bearing-blocks 34 and the saddles, and by so doing the proper tension of the truss-rods is obtained. When said wedges 38 are properly positioned, they are held by the keys 39 or other suitable means.

In Fig. 1 I have illustrated one end of the bolster as being cut down, so that it is in thickness equal to the height of the boxes 3. While this is preferable, it is not essential, as the end of said timber may be left full, as shown at the opposite end of said timber.

A bolster constructed in accordance with my invention will carry an extremely-heavy load, the greatest strain-resisting qualities of the timber are utilized, and said bolster is very cheaply constructed, easily and expeditiously put together, and is very durable.

It has heretofore been common practice to locate the column-guides on the sides of the timber by passing bolts through said column-guides and said timber. When lateral strain comes upon the column-guides so positioned, said guides and bolts work loose and very often render the timbers unfit for use as bolsters. By my improved bolster these difficulties are entirely overcome and a very simple and efficient bolster is produced.

I claim—

1. In a car-bolster, the combination of a timber, metallic boxes located on the ends thereof, and column-guides formed integral with the sides of said boxes.

2. In a car bolster, a timber, metallic boxes located on the ends thereof, vertical column-guides formed integral with the sides of said

boxes, and truss-rods the ends of which pass diagonally upwardly through the ends of the timber and the metallic boxes.

3. In a car bolster, a timber having kerfs formed in its ends, and metallic boxes constructed with integral column-guides and integral walls that are located in said kerfs.

4. In a car bolster, the combination of a timber, metallic boxes located upon the ends thereof, truss-rods extending diagonally upward through the ends of said timber and through the boxes, heads formed integral with the ends of said truss-rods, saddles arranged to slide from the center outwardly to tighten said truss-rods and washers interposed between said heads and the metallic boxes.

5. In a car bolster, the combination of a timber, constructed with kerfs in its lower outer ends, metallic boxes having parallel column-guides formed integral with their side faces and with walls that are located in the kerfs, truss-rods having their ends bent upwardly and extended through said kerfs on top of the walls, heads located on the ends of said truss-rods, suitable washers interposed between said heads and the ends of the metallic boxes, and saddles arranged between the truss-rods and the timbers.

6. In a car bolster, the combination of a timber, metallic boxes located upon the ends thereof, the same being constructed with recesses in their outer faces, truss-rods the ends of which extend diagonally upward through the ends of the timber and the metallic boxes, and washer-plates constructed in mating portions arranged around the ends of the truss-rods and located within the recesses formed in the metallic boxes.

7. In a car bolster, a metallic box constructed with integral parallel column-guides on the faces of its side-walls and having slots formed in the top edge of the end of said box, and interior walls formed integral with said box and extending downwardly from the lower ends of the slots in the end-wall to the end of the bottom of said box, the upper edges of said interior wall being concaved.

8. In a car bolster, a saddle arranged to be located between the truss-rods and the timber, the same having recesses formed in its under side, bearing-blocks arranged to move vertically in said recesses and having grooves formed in their under sides to engage the truss-rods, and wedges arranged within the recesses between said blocks and saddles.

9. In a car bolster, the combination of a timber having kerfs formed in its ends, metallic boxes located on the ends of said timber and being constructed with integral column-guides and integral walls that are located in said kerfs, and truss-rods, portions of which extend along the top edges of the walls within the kerfs, the ends of said truss-rods bearing directly upon the metallic boxes.

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

JOHN C. WANDS.

Witnesses:
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MAUD GRIFFIN.