No. 717,387. Patented Dec. 30, 1902.

# J. H. GEER & D. WISOR.

## TRUCK BOLSTER.

(Application filed June 30, 1902.)

(No Model.)

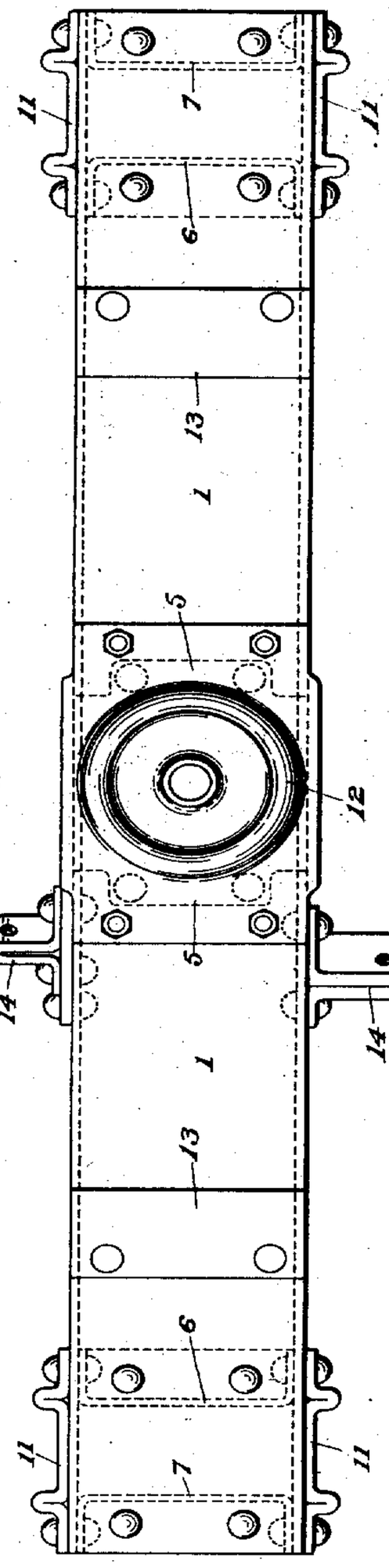


Fig. 1.

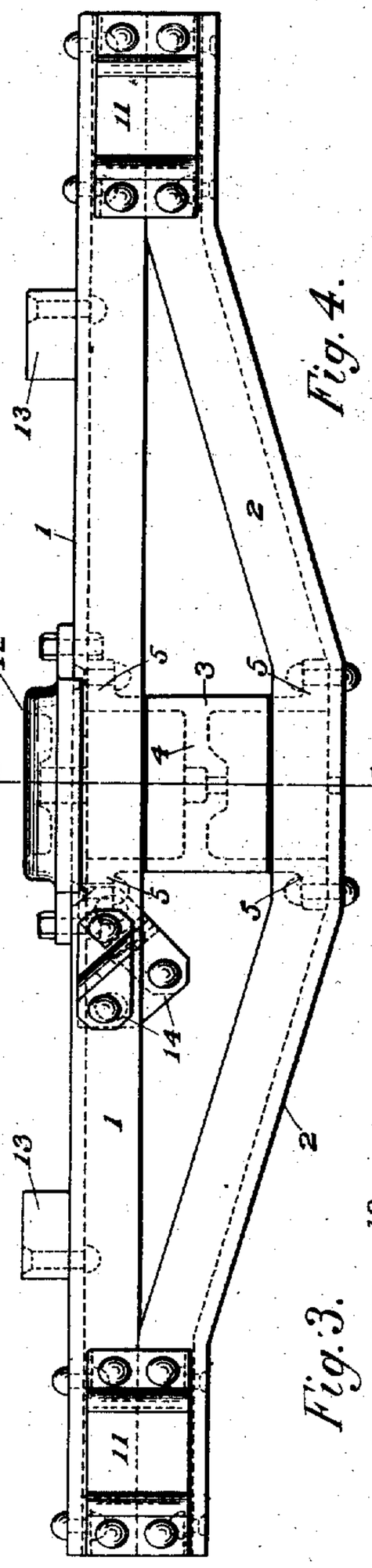


Fig. 2.

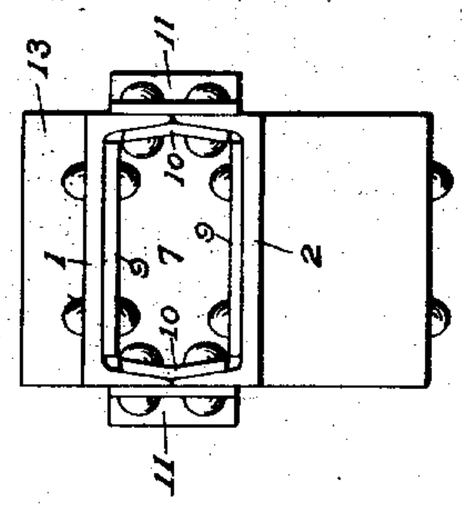


Fig. 4.

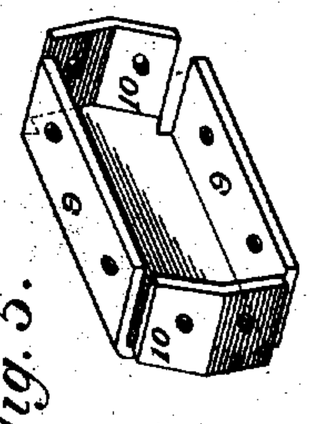


Fig. 5.

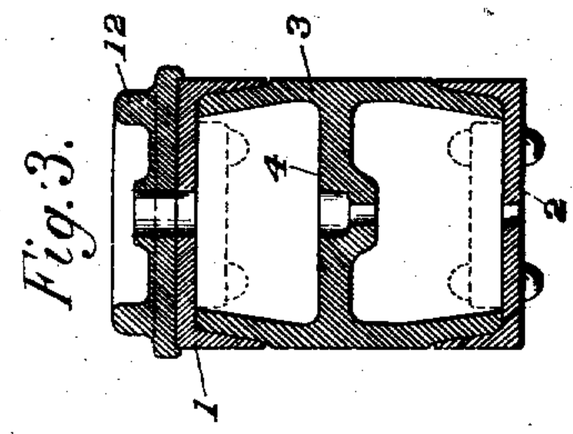


Fig. 3.

WITNESSES.

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# UNITED STATES PATENT OFFICE.

JAMES H. GEER AND DAVID WISOR, OF JOHNSTOWN, PENNSYLVANIA.

## TRUCK-BOLSTER.

SPECIFICATION forming part of Letters Patent No. 717,387, dated December 30, 1902.

Application filed June 30, 1902. Serial No. 113,694. (No model.)

*To all whom it may concern:*

Be it known that we, JAMES H. GEER and DAVID WISOR, citizens of the United States, residing at Johnstown, in the county of Cambria and State of Pennsylvania, have invented certain new and useful Improvements in Truck-Bolsters; and we 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.

Our invention consists of various improved constructions of car-bolsters and the details thereof, with particular reference to those known as "truck-bolsters."

Certain of the objects of our invention are to produce a structure that is well adapted to withstand the various stresses to which it may be subjected while in use, simple, cheap, and built of materials easily obtained, and manufactured without the use of special sections or machinery.

We will now in order to make the matter more clear refer to the annexed sheet of drawings, which forms part of this specification, and in which like figures refer to like parts.

Figure 1 is a plan of our improved bolster. Fig. 2 is a side elevation thereof. Fig. 3 is a central vertical sectional elevation on the line A A of Fig. 2. Fig. 4 is an end elevation of the bolster, and Fig. 5 is a perspective view of the end diaphragms.

Referring now to the various characters of reference upon the drawings, 1 is the straight top member, shown as a channel, the flanges of which project downwardly.

2 is the bottom member, also shown of channel section, but with its flanges extending upwardly. The bottom member 2 is so formed and arranged that its central portion is parallel and separated from the top member, inclining thence toward the ends, where both members are again parallel, as shown.

3 is a center brace formed of a hollow four-sided casting, provided with a horizontal integral diaphragm 4, which is intended to receive and support the ends of the king-pin, as shown. The center brace 3 is also provided at its top and bottom with outwardly-extending flanges 5, integral therewith, which serve to fasten said center brace to the upper and lower members of the bolster. The two end walls of the casting 3 have formed integral therewith the flanges 5 above mentioned, while the adjoining or side walls of said center brace parallel to the sides of the bolster are shaped to fit within the projecting flanges of the upper and lower members. The flanges 5 of the center brace rest directly against the webs of the upper and lower members and are secured thereto by through rivets or bolts, which are countersunk on the upper member, as shown in Fig. 2.

6 represents inside end braces or diaphragms, and 7 represents similar braces or diaphragms, both of which are secured to the webs of the top and bottom members, the detail construction of said diaphragms being clearly indicated in Fig. 5. Both of these diaphragms serve to strengthen the ends of the structure and assist in carrying the load to the springs, while the diaphragms 7 also form a closure and finish for the end of the bolster. Each of said diaphragms consists of a box-like-shaped trough with corners cut out, the sides 9 of which are parallel and are riveted directly to the webs of the upper and lower members of the bolster when in place. The sides 10 are V-shaped to fit inside of the flanges of said members, as shown.

11 represents column-guides formed of crimped plates, as shown, and secured to the flanges of the upper and lower members of the bolster, together with the sides 10 of the end diaphragms, by through rivets or bolts, as indicated on the drawings.

12 is the center bearing, 13 the side bearings, and 14 represents the dead-lever guide-fulcra for the brake-rigging.

Although we have shown our improvements in considerable detail, we do not limit ourselves to the exact and specific particulars of the arrangements herein described and illustrated, but may use such variations and modifications or equivalents thereof as are embraced within the scope of our invention and as pointed out in the claims.

Having thus given a description of our invention, what we claim, and desire to secure by Letters Patent, is—

1. In a truck-bolster, a straight top member consisting of a rolled channel arranged with depending side flanges, a bottom rolled-channel member, arranged with its flanges projecting upwardly, secured to the ends of said top member and separated therefrom at the center by a center brace composed of a hollow four-sided casting provided with a horizontal inside diaphragm adapted to serve as king-pin bearing.

2. In a bolster, a center brace composed of a hollow four-sided casting provided with an integral, horizontal, inside diaphragm having a substantially cylindrical recess adapted to serve as king-pin bearing.

3. In a bolster, a center brace composed of a hollow four-sided casting provided with upper and lower outwardly-extending integral flanges, and a horizontal inside diaphragm formed integral therewith having a receptacle arranged in its upper face to receive and serve as bearing for the king-pin.

4. In a bolster, a straight top member consisting of a rolled channel arranged with depending side flanges, a lower rolled-channel member arranged with its flanges projecting upwardly, secured to the ends of said top member and separated therefrom at the middle by a center brace composed of a hollow four-sided casting provided with a horizontal diaphragm adapted to serve as king-pin bearing.

5. In a bolster, a straight top member consisting of a rolled channel arranged with depending side flanges, a bottom rolled-channel member arranged with its flanges projecting upwardly secured to the ends of said top member and separated therefrom at the middle by a center brace composed of a hollow four-sided casting provided with a horizontal inside diaphragm having a receptacle in the upper face thereof, to receive and serve as bearing for the end of the king-pin, and outwardly-extending integral flanges connected by through bolts or rivets to said top and bottom members.

6. In a trussed channel-bolster, an end diaphragm having substantially, the shape of an oblong hexagonal box, two sides of which are parallel and adapted to be secured directly to the webs of the top and bottom members of said bolster, the ends of said box being V-shaped to conform to and fit the meeting flanges of the top and bottom members of said bolster.

7. In a bolster, a straight top member consisting of a rolled channel arranged with depending side flanges, a bottom rolled-channel member arranged with its flanges projecting upwardly, secured to the ends of said top member by means of end diaphragms having substantially the shape of an oblong hexagonal lidless box the sides of which are attached to the webs and the ends of which are secured to the meeting flanges of said top and bottom members.

8. In a bolster, a straight top member consisting of a rolled channel arranged with depending side flanges, a bottom rolled-channel member arranged with its flanges projecting upwardly, secured to the ends of said top member by means of end diaphragms having substantially the shape of an oblong hexagonal lidless box the sides of which are attached to the webs and the ends of which are secured to the meeting flanges of said top and bottom members, a center brace secured between the central portions of said top and bottom members, said center brace being composed of a hollow four-sided casting provided with a horizontal inside diaphragm adapted to serve as bearing for the king-pin.

9. In a bolster, a straight top member consisting of a rolled channel arranged with depending side flanges, a bottom member of channel form with upwardly-extending flanges secured to the ends of said top member by means of end diaphragms having substantially the shape of an oblong hexagonal lidless box the sides of which are attached to the webs, the ends of which are secured to the meeting flanges of said top and bottom members, a center brace composed of a hollow four-sided casting provided with a horizontal inside diaphragm integral therewith, having a receptacle arranged in its upper face to receive and serve as bearing for the king-pin.

10. In a bolster, a straight top member consisting of a rolled channel arranged with depending side flanges, a bottom member of channel form with upwardly-extending flanges secured to the ends of said top member by means of end diaphragms having substantially the shape of an oblong hexagonal lidless box the sides of which are attached to the webs, the ends of which are secured to the meeting flanges of said top and bottom members, a center brace composed of a hollow four-sided casting provided with a horizontal inside diaphragm integral therewith and integral outwardly-extending flanges secured to the upper and lower members of the bolster aforesaid by rivets or bolts passing therethrough.

11. In a bolster, a straight top member consisting of a rolled channel arranged with depending side flanges, a bottom member of channel form with upwardly-extending flanges secured to the ends of said top member by means of end diaphragms having substantially the shape of an oblong hexagonal lidless box, the sides of which are attached to the webs, the ends of which are secured to the meeting flanges of said top and bottom members, a center brace composed of a hollow four-sided casting provided with a horizontal inside diaphragm integral therewith, having a receptacle arranged in its upper face to receive and serve as bearing for the king-

pin, integral outwardly-extending flanges on said center brace secured to the middle portions of the upper and lower members of the bolster aforesaid by rivets or bolts passing therethrough, crimped-plate column-guides secured to the side flanges of the bolster and the ends of said diaphrams, by through rivets or bolts.

In testimony whereof we hereto affix our signatures in the presence of two witnesses.

JAMES H. GEER.
DAVID WISOR.

Witnesses:
STONE EDELEN,
HERBERT LUEBBERT.

Corrections in Letters Patent No. 717,387.

It is hereby certified that in Letters Patent No. 717,387, granted December 30, 1902, upon the application of James H. Geer and David Wisor, of Johnstown, Pennsylvania, for an improvement in "Truck-Bolsters," errors appear in the printed specification requiring correction, as follows: In line 72, page 1, the word "diaphragms" should read *diaphragm;* and in line 73, same page, the word "form" should read *forms;* and that the said Letters Patent should be read with these corrections therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 13th day of January, A. D., 1903.

[SEAL.]

F. I. ALLEN,
*Commissioner of Patents.*

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[SEAL.]

F. I. ALLEN,

*Commissioner of Patents.*