No. 738,211. PATENTED SEPT. 8, 1903.

A. LIPSCHUTZ.

TRUCK AND BODY BOLSTER.

APPLICATION FILED DEC. 4, 1902.

NO MODEL.

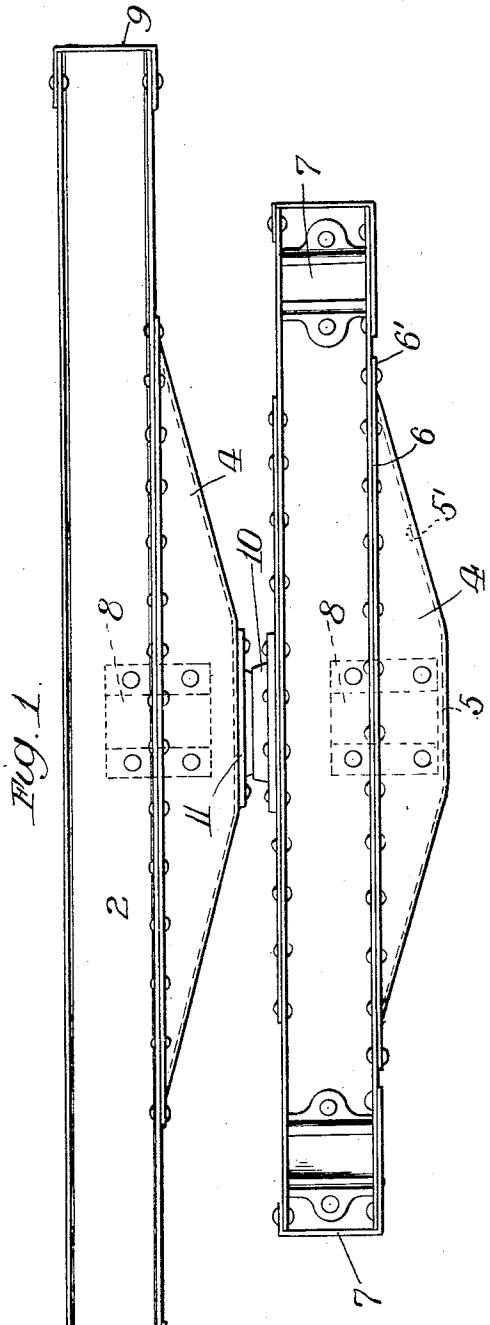

Fig. 1.

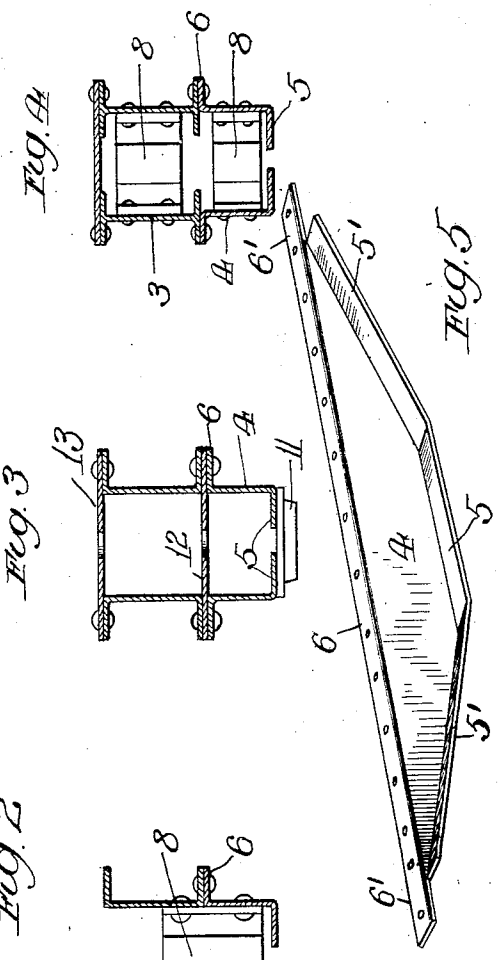

Fig. 4

Fig. 5

Fig. 3

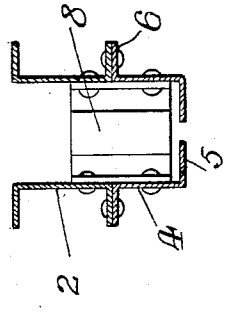

Fig. 2

Witnesses:
Harold D. Barrett
E. Wreland.

Inventor:
Arthur Lipschutz
By O. Mawley, Atty.

No. 738,211. Patented September 8, 1903.

UNITED STATES PATENT OFFICE.

ARTHUR LIPSCHUTZ, OF ST. LOUIS, MISSOURI.

TRUCK AND BODY BOLSTER.

SPECIFICATION forming part of Letters Patent No. 738,211, dated September 8, 1903.

Application filed December 4, 1902. Serial No. 133,856. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR LIPSCHUTZ, a resident of the city of St. Louis, State of Missouri, have invented certain new and useful Improvements in Truck and Body Bolsters, of which the following is a specification.

My invention relates to truck and body bolsters for railroad-cars; and the object of my invention is to provide a strong all-metal bolster of less weight and cost than the bolsters which are now in use, devised or invented heretofore.

A particular object of my invention is to provide a truck or body bolster in which ordinary rolled or structural steel shapes—such as channel-bars, I-beams, and the like—may be employed without alteration in shape.

Another object of my invention is to provide a metal bolster comprising two parallel bolster members, which though ordinarily combined in a single bolster may be used independently, each as a light bolster.

My invention primarily consists in the combination of two channel I or other beams, preferably of commercial cross-section, with a pressed-metal truss attached to the bottom of each beam and suitable means securing said beams parallel, making a bolster which in elevation corresponds closely to the accepted theoretical bolster outline; and, further, my invention consists in such a plural-element bolster wherein the flanges of the pressed truss portions are turned inwardly, so that the bottom of the bolster is of less width than the top thereof; and my invention further consists in various details of construction and in combinations of parts, all as hereinafter described, and particularly pointed out in the claims.

My invention will be more readily understood by reference to the accompanying drawings, forming a part of this specification, and in which—

Figure 1 is an elevation of a truck and a body-bolster, each embodying my invention. Fig. 2 is a sectional view of the bolster. Fig. 3 is a sectional view showing a modification thereof. Fig. 4 is a similar view illustrating still another modification of my invention, and Fig. 5 is an enlarged perspective view of one of the pressed or formed trusses.

The most practical form of my invention includes a rolled channel 2 or a rolled I-beam 3, these being commercial shapes which can be readily obtained in various sizes as required in the manufacture of bolsters for cars of different carrying capacities. Other and different beams and shapes may be utilized within the scope of my invention, though not economically adapted thereto. The drawings illustrate the form of bolster which is most common—namely, that which is made up of parallel members.

The gist of my invention resides in the combination of the beams 2 or 3 with the trusses 4, attached to the lower flanges of the beams.

My invention also resides in the arrangement of the beams and the trusses with their respective webs or vertical portions in parallel vertical planes, whereby maximum strength is secured in a minimum weight of material. The truss that I prefer to employ is Z-shaped in cross-section and is an article that is pressed from sheet-steel. In elevation the device is truss-shaped, and the lower flanges 5 follows the truss outline. The upper flange 6, which is riveted to the lower flange of the uniform section-beam, extends oppositely to the flange 5, and its ends 6′ are preferably extended beyond the upper ends of the inclined portions 5′ of the lower flange.

As pointed out in a companion divisional application, the rolled channel or other beam and the pressed flanged truss when firmly riveted together constitute the complete bolster element, which upon the addition of suitable column-guides, such as 7, may be used as a truck-bolster for a light car. For heavier cars my bolster comprises two of these elements, the same being parallel and fastened together, as by the diaphragm-block 8 and the end straps 9. The diaphragm block or blocks are preferably placed at the middle of the bolster to receive the center pin or bolts of the car-truck. The lower or truck bolster is provided with a truck-center 10 on its top, the same being fastened across the top flanges of the parallel beams. The lower flanges of the trusses belonging to the opposite beams are turned inwardly. These being flat on the bottom afford a seat for the truck-

center 11 of the body-bolster, while in the case of the truck-bolster the same is made to possess the advantage of being so narrow at the bottom that it may drop between the sides of the channel which comprises the cross-plank of the truck. Where great strength is required, I prefer the I-beam form of the bolster, as shown in Fig. 4, and a medium-weight bolster is made by interposing a plate 12 between the beams and the trusses and by providing the bolster with a cover-plate 13, these parts adding rigidity to the structure.

As it is obvious that numerous modifications of my invention and also additions thereto will readily suggest themselves to one skilled in the art, I do not confine the invention to the specific constructions and combinations of parts herein shown and described.

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

1. The bolster, comprising the parallel beams, suitably fastened together and each provided with a relatively short truss, substantially as described.

2. The bolster, comprising the parallel flanged beams, suitably secured together, in combination, with a relatively short individual truss for each, substantially as described.

3. The bolster, comprising the parallel flanged beams, suitably secured together, in combination with the relatively short individual flanged truss for each beam, substantially as described.

4. The bolster, comprising the rolled-steel beams, having lateral flanges and held parallel, in combination with the pressed-steel flanged trusses, one for each beam, the upper flanges of said trusses being riveted to the lower flanges of respective beams, substantially as described.

5. The parallel flanged steel beams, in combination, with the pressed-steel individual trusses therefor, said trusses being Z-shaped in cross-section and having their upper flanges riveted to the flanges of respective beams, substantially as described.

6. The bolster, comprising the rolled-steel beams, of suitable length and provided with outwardly-turned flanges, in combination, with the individual beam-trusses, each having an upper flange riveted to the lower flange of its respective beam, said trusses having inwardly-turned bottom flanges and suitable means whereby said beams are held parallel, substantially as described.

7. The bolster, comprising the parallel flanged steel beams, in combination with the cover-plate riveted thereto, the diaphragm-block, the end fastenings and the individual Z-shaped trusses of said beams, substantially as described.

8. The bolster, comprising the rolled-steel channels of suitable length and rigidly connected, in combination, with the pressed-steel individual trusses, of varying depth, the said trusses having outwardly-projecting flanges, riveted to the lower flanges of respective channel-beams and having inwardly-turned bottom flanges, substantially as described.

In testimony whereof I have hereunto set my hand, this 29th day of November, 1902, at St. Louis, Missouri.

ARTHUR LIPSCHUTZ.

Witnesses:
J. H. WEISBROD,
WM. STEVENSON.