

No. 698,876.

Patented Apr. 29, 1902.

C. VANDERBILT.
BOLSTER FOR RAILWAY CARS.

(Application filed Oct. 5, 1901.)

(No Model.)

Fig. 1.

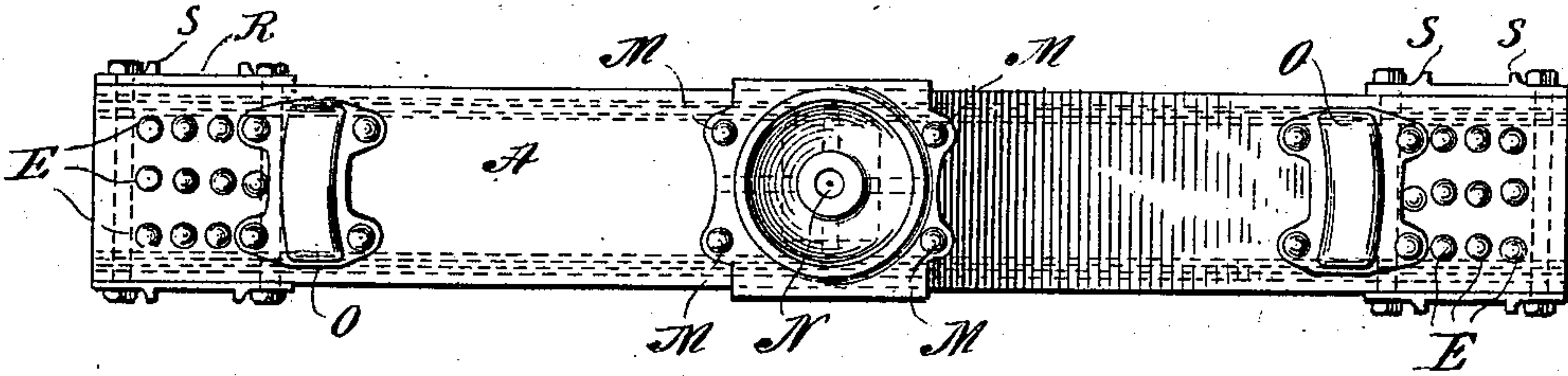


Fig. 2.

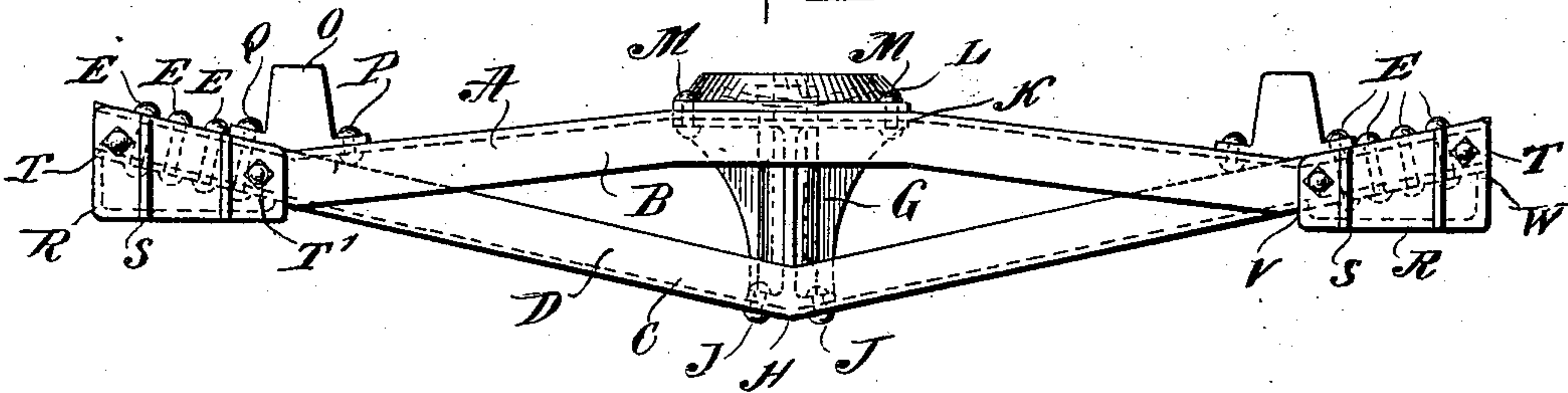


Fig. 3.

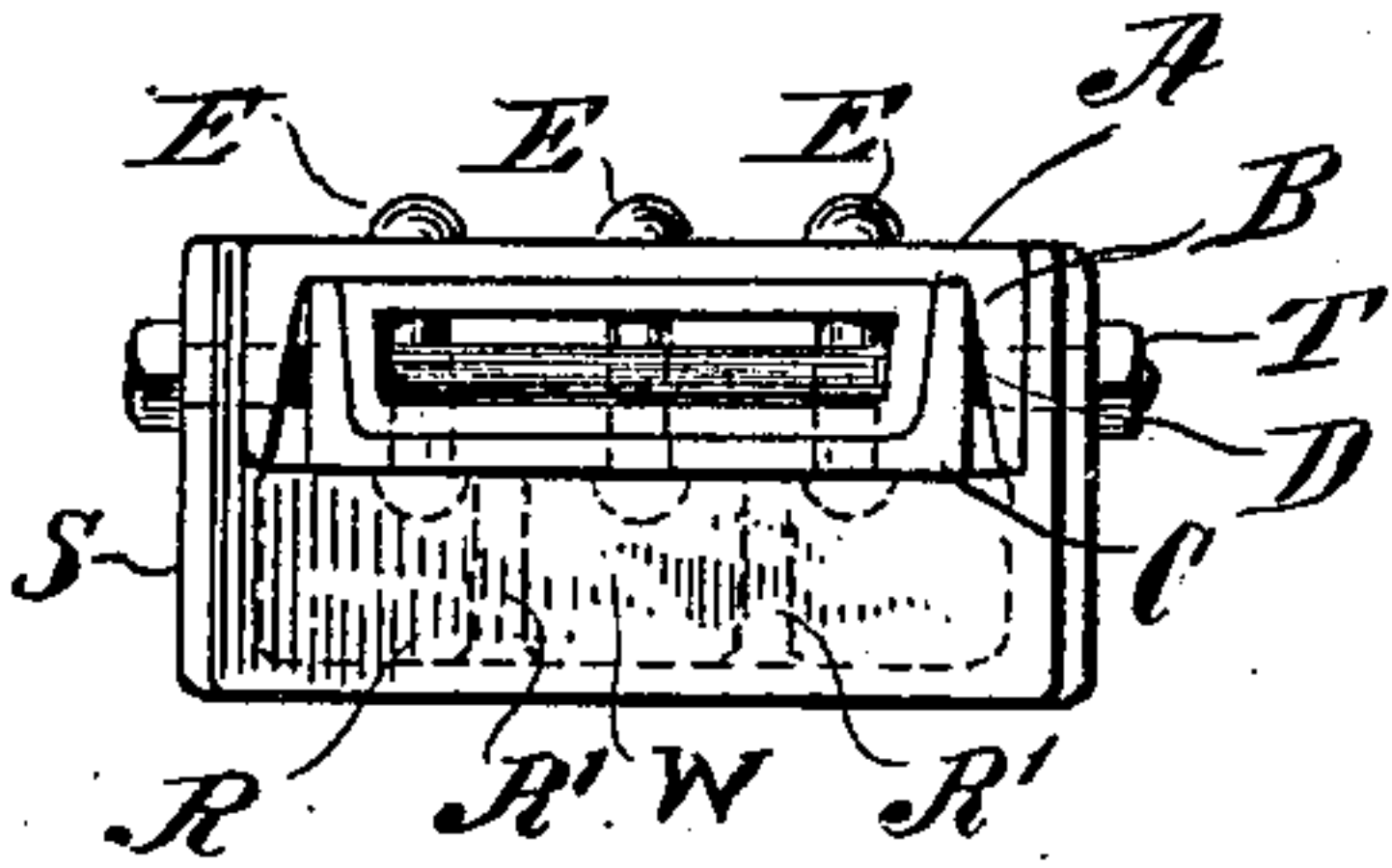


Fig. 4.

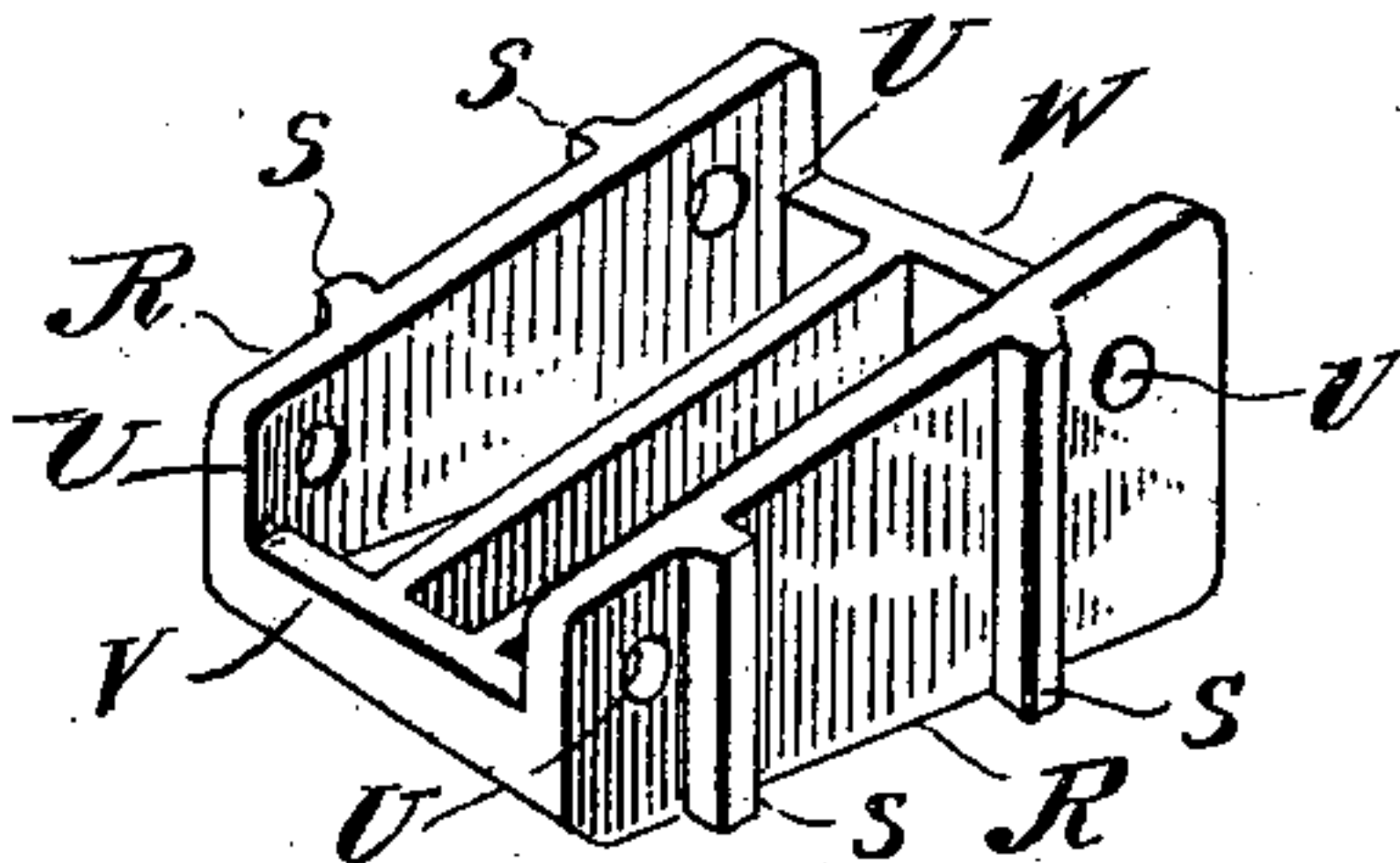
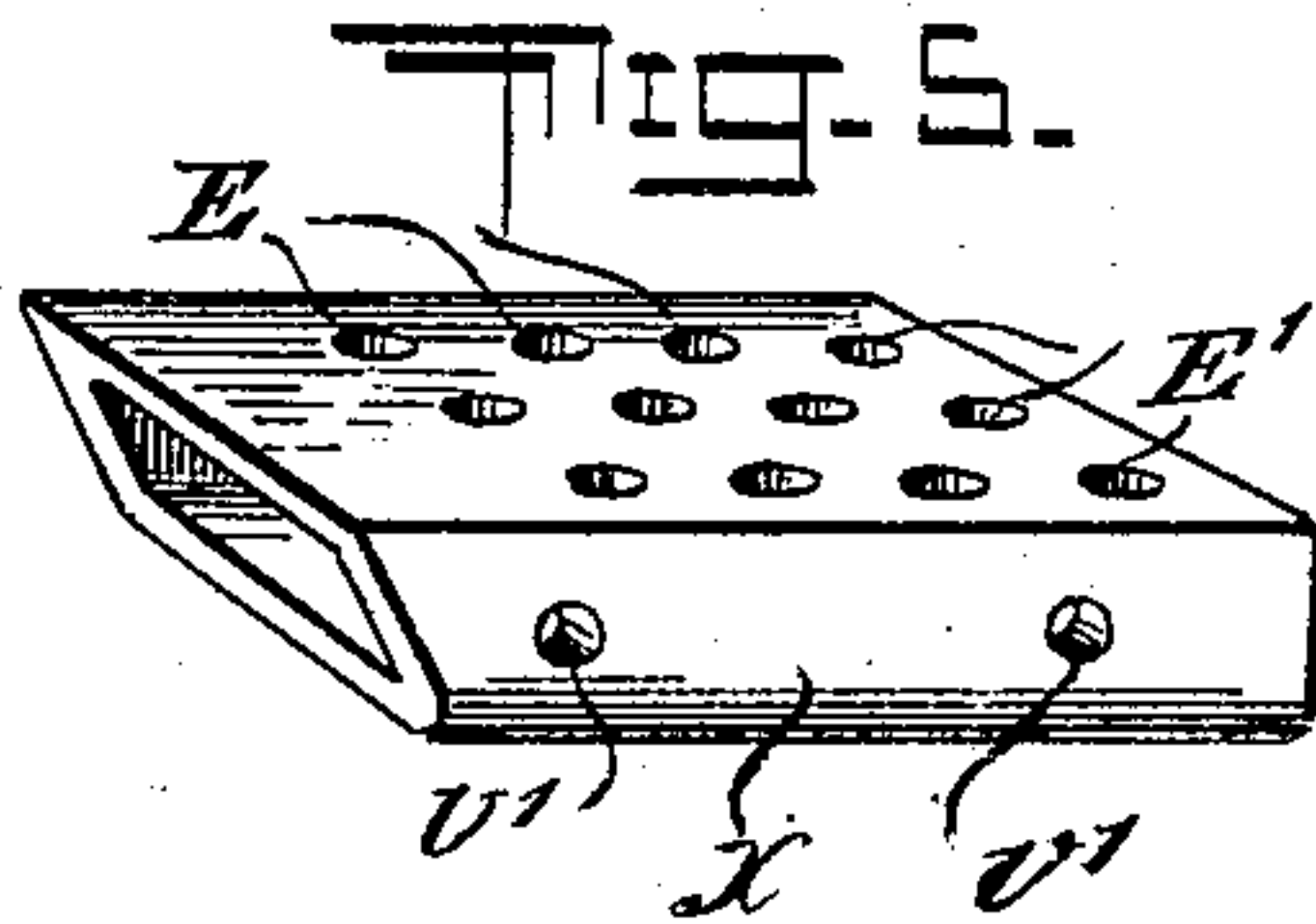


Fig. 5.



WITNESSES:

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UNITED STATES PATENT OFFICE.

CORNELIUS VANDERBILT, OF NEW YORK, N. Y.

BOLSTER FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 698,876, dated April 29, 1902.

Application filed October 5, 1901. Serial No. 77,843. (No model.)

To all whom it may concern:

Be it known that I, CORNELIUS VANDERBILT, a citizen of the United States, having an office and post-office address at 100 Broadway, borough of Manhattan, city and State of New York, have invented certain new and useful Improvements in Bolsters for Railway-Cars, of which the following is a full and true description, reference being had to the accompanying drawings, showing one embodiment of my improvements.

The object of my present invention is the production of a railway-car bolster of great strength and adapted to be economically manufactured.

My new bolster may be adapted for use either as a body-bolster or a truck-bolster, which latter form is illustrated in the drawings and hereinafter specifically described.

In the accompanying drawings I have shown a truck-bolster made up of assembled channel-beams, &c., in ordinary rolled or cast commercial forms, the use of which effects a considerable saving of time and cost as compared with bolsters made of pressed steel or other special metal-work. My improvements may, however, be incorporated in other forms of bolsters wholly or partly of metal.

Referring to the said drawings, Figure 1 shows a top view of my new bolster. Fig. 2 is a side view thereof, and Fig. 3 is an end view. Fig. 4 is a perspective view of a form of spring-seat attached to the bolster. Fig. 5 is a perspective view of a filling piece preferably inserted between the beams of the bolster.

The improved bolster preferably comprises a trussed structure having an upper member and a lower member, these being connected together at their ends and spaced apart midway of their length by one or more metallic pieces comprising a king-bolt socket. Preferably, also, the truck-bolster is provided with attached side bearings and attached spring-seats and with a filling and strengthening piece inserted between the beams where secured together.

In the drawings, A indicates the upper member of the truss, said member preferably being a continuous channel-beam having downwardly-extending flanges B.

C indicates the lower member of the truss, preferably a continuous channel-beam having upwardly-extending flanges D. As illustrated, the lower member C is narrower than the member A, and its flanges D when the members are assembled in inverted relation closely fit between the flanges B of the upper member at the ends of the truss. This arrangement of parts is particularly illustrated in Fig. 3 of the accompanying drawings; but it is obvious, however, that the flanges of either of the beams may fit between the flanges of the other or that the adjacent flanges may be arranged in any other way which permits of their being superimposed and having the flanges of one or both beams in contact with the web of the other beam, which is an arrangement preferred by me and one which contributes great strength and stiffness to the structure and also provides a very compact and strong arrangement, especially when the same is used in combination with the filling-pieces hereinafter described. In the specific form illustrated the beam A is bent downwardly in either direction from the points K K to the points of attachment of the side bearings and then bent upwardly, so as to be parallel with the upwardly-extending ends of the lower beam C. The latter beam is bent upwardly from a point H midway of its length.

At their fitted ends the beams A and C are secured by rivets E or otherwise. Preferably, however, the rivets will pass through openings in the webs of the beams, thus locking the beams together, while any shifting will be prevented by the contact of the flanges B and D of the beams. In addition the ends are further stiffened and strengthened by the addition of spring-seats R, as hereinafter described.

The strength and rigidity of the bolster will be considerably increased by the insertion of a filling-piece between the beams at the ends where secured together. One form of a filling-piece is illustrated in Fig. 5 of the drawings. It consists of a tubular body substantially corresponding in exterior shape to the space between the beams A and C where superimposed. The filling-piece, which may be a casting, is provided with openings E',

through which the rivets E will pass, and with side openings U' for the bolts U, hereinafter described.

It is always desirable in order to impart strength and stiffness to the structure of the bolsters to employ a large number of rivets to secure the different members together, and the preferred arrangement of my bolster, wherein the upper compression member has its flanges downwardly extending and the lower tension member has its flanges upwardly extending, with a filling-piece interposed in the space between them, makes it possible to employ a considerable number of bolts, rivets, or other devices to secure these members together. Thus it will be seen that I have shown in the accompanying drawings means for securing these three members together, including bolts T, passing through the flanges of both beams and the filling-piece, and also shorter bolts or rivets E, which pass through the webs of both beams and through the filling-piece. In addition to or as substitutes for the longer bolts T, I may employ rivets or short bolts, which secure each pair of overlapped flanges without extending across the bolster.

The compression member A and the tension member C are spaced apart midway of their length by one or more metallic parts, comprising the king-bolt socket of the truck-bolster. Preferably I employ a casting G of one piece, adapted at its top and bottom to closely fit between the flanges of the beams A and C, as well as to closely fit the angles K K and H of the beams.

Referring to Fig. 2, it will be seen that the casting may be secured to the tension-beam by rivets J, and after addition of a center bearing-plate L the casting may be secured to the compression-beam A by rivets M, which pass through the plate, beam, and casting.

The center bearing-plate is provided with an opening N, which registers with an opening through the compression-beam A, and with a recess or opening in the casting G, the whole completing a socket for the reception of the king-bolt depending from the body-bolster of the car.

To the track-bolster made as described I preferably add side bearings O and spring-seats R. While these may be of any suitable form and may be separate or integral, I prefer the forms shown in the drawings. The side bearings O may each be of the usual shape, projecting upwardly from the bolster end and provided with a recess in its upper face for retaining the friction-roller. In order to firmly secure the side bearings to the bolster, I provide rivets P and Q, the latter being sufficiently long to pass through both beams of the bolster, adding to the strength and stiffness of the structure.

The construction of spring-seat preferred by me is shown in Fig. 4 of the accompanying drawings. It consists of a hollow box-like

body R, which may be either of cast or pressed metal. It is provided with internal strengthening-ribs R' and at each side with external ribs S S, which fit and slide upon a fixed part of the cross-beam of a car-truck, and each spring-seat is secured to an end of the bolster by means of a bolt or rivet T, passing through openings U in the sides of R and in the contacting flanges B and D of the beams A and C, thereby further stiffening and strengthening the bolster at its ends. Obviously each spring-seat may be a solid block closely fitting at all its parts upon the ends of the bolster. Preferably, however, the spring-seats, as especially shown in Fig. 4, are provided with front and rear flanges V and W, having inclined edges and adapted when attached to the bolster to closely fit the bottom of the web of the tension-beam.

I do not desire to be understood as confining the employment of my invention to the construction illustrated in the drawings and heretofore described. Obviously many modifications thereof within the scope of my claims will readily suggest themselves to skilled persons.

What I claim is—

1. A bolster for railway-cars, comprising a truss having an upper compression member with flanges, and a lower tension member with flanges, said members having their flanges placed side by side at the ends of the truss, and there secured together by means which pass through both beams, and filling-pieces at each end of the bolster, in the spaces between the beams.

2. A bolster for railway-cars, comprising a truss having an upper compression member with flanges and a lower tension member with flanges, said beams having their flanges placed side by side at the ends of the truss, filling-pieces at each end of the bolster in the space between the beams, and means for securing the beams and filling-pieces together.

3. A bolster for railway-cars, comprising a truss having an upper compression member with flanges, and a lower tension member with flanges, said beams having their flanges placed side by side at the ends of the truss, filling-pieces at each end of the bolster, in the space between the beams, and securing means passing through the flanges of the beams and through the filling-pieces.

4. A bolster for railway-cars, comprising upper and lower channel-beams, having their flanges overlapping at the ends of the bolster, and a filling-piece at each end of the bolster, in combination with a transversely-extending bolt at each end of the bolster, which bolt passes through the sides of both flanges and through the filling-piece.

5. A bolster for railway-cars, comprising upper and lower channel-beams, having their flanges placed side by side at the ends of the bolster, in combination with spring-seats, one near either end of the bolster, and each pro-

vided with extensions which fit against the flanges of one of said channel-beams, and secured in position by bolts which pass through the extensions of the spring-seat and through the several flanges of the beams.

5 6. A bolster for railway-cars, comprising an upper channel-beam having its flanges downwardly disposed, a lower channel-beam having its flanges upwardly disposed, said 10 beams being fitted together and having their flanges overlapping at the ends of the beams, and filling-pieces in the spaces between the beams at the ends of the bolster, in combination with means for securing the filling-pieces 15 and the flanges of said beams together.

20 7. A bolster for railway-cars, comprising an upper channel-beam having its flanges downwardly disposed, a lower channel-beam having its flanges upwardly disposed, the said beams fitting together and having their flanges overlapping at the ends of the beams, and filling-pieces in the spaces between the beams at the ends of the bolster, in combination with a transversely-extending bolt passing

through the filling-piece and through all of 25 the flanges of both beams.

8. A bolster for railway-cars, comprising an upper channel-beam having its flanges downwardly disposed, a lower channel-beam having its flanges upwardly disposed, said 30 beams fitting together and having their flanges overlapping at the ends of the beams, and filling-pieces in the spaces between the beams at the ends of the bolster, in combination with securing means at each end of the bolster, comprising a transversely-extending 35 bolt passing through the filling-piece and through all the flanges of both beams, and a vertically-extending bolt passing through the webs of both beams and through the filling- 40 piece.

In witness whereof I have hereunto signed my name this 24th day of September, 1901.

CORNELIUS VANDERBILT.

In presence of—

EDWIN C. FARLOW,
LOUIS A. SHEPARD.