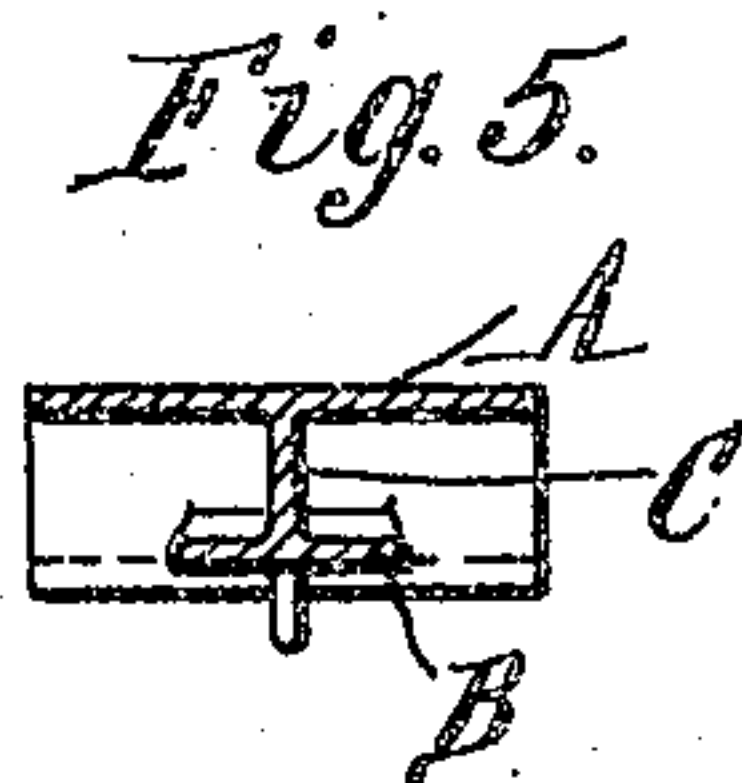
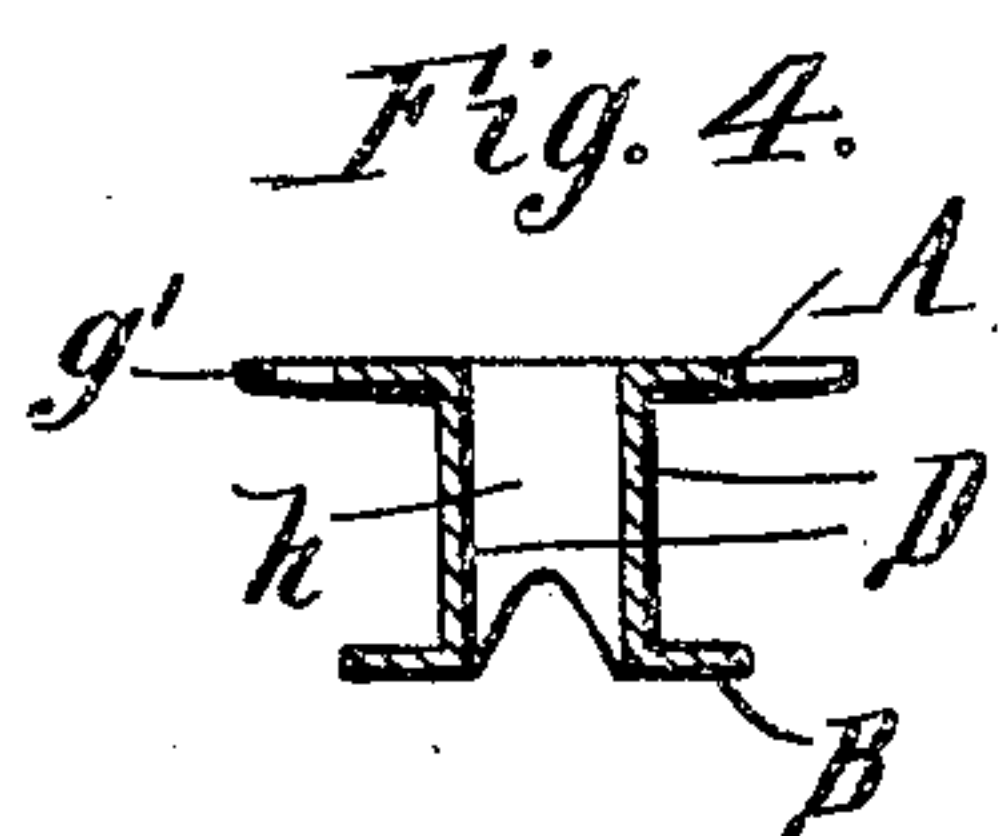
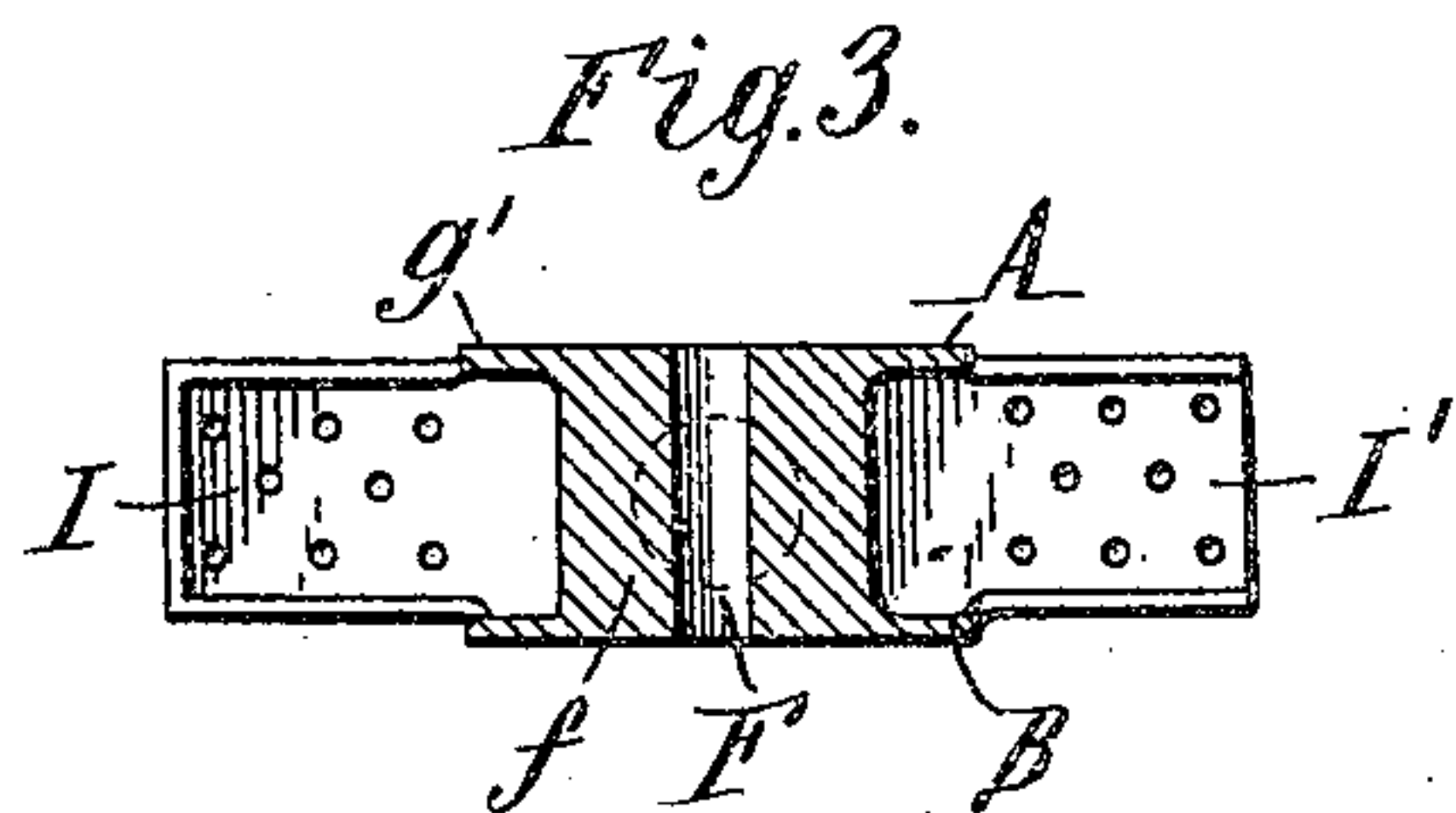
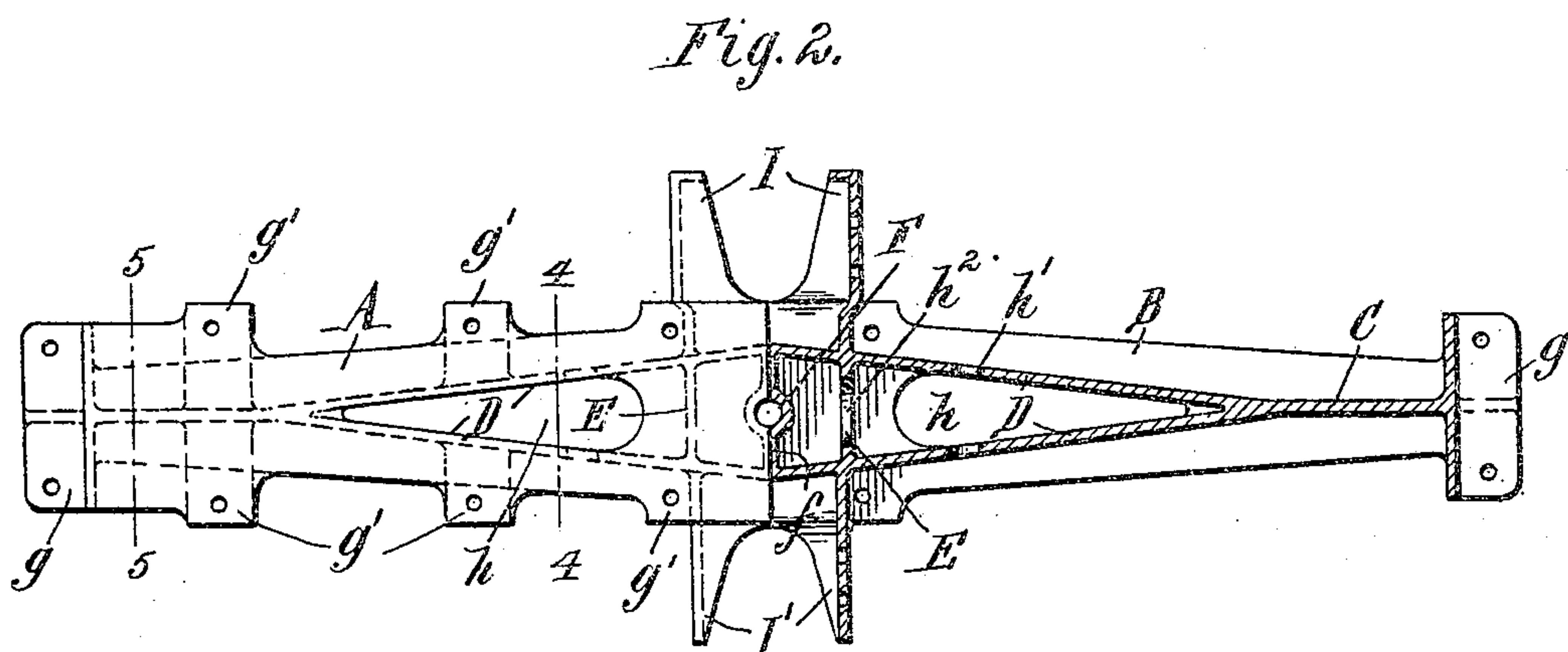
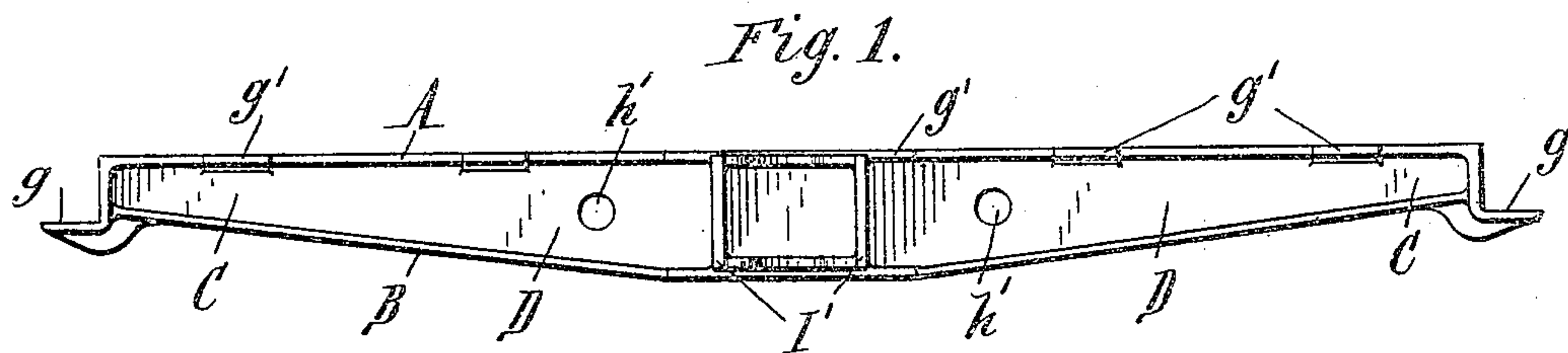


No. 800,888.

PATENTED OCT. 3, 1905.

H. H. VAUGHAN.  
BOLSTER FOR RAILWAY CARS.  
APPLICATION FILED FEB. 16, 1905.



Witnesses:-  
R. W. Ginner.  
E. A. Vock.

Inventor:  
H. H. Vaughan,  
By Wilhelm Pankert Hard  
Attorneys.



# UNITED STATES PATENT OFFICE.

HENRY H. VAUGHAN, OF MONTREAL, CANADA.

## BOLSTER FOR RAILWAY-CARS.

No. 800,888.

Specification of Letters Patent.

Patented Oct. 3, 1905.

Application filed February 16, 1905. Serial No. 245,811.

*To all whom it may concern:*

Be it known that I, HENRY H. VAUGHAN, a citizen of the United States, residing at Montreal, Province of Quebec, Dominion of Canada, have invented a new and useful Improvement in Bolsters for Railway-Cars, of which the following is a specification.

This invention relates more particularly to body-bolsters for railway-cars.

The object of the invention is to produce a single-piece cast-steel bolster which can be economically manufactured and in which the metal is disposed to the best advantage, so that the maximum strength and rigidity are secured in a bolster of the minimum weight.

In the accompanying drawings, Figure 1 is a side elevation of a bolster embodying the invention. Fig. 2 is a view thereof, one-half in plan and one-half in horizontal section. Fig. 3 is a transverse central section thereof. Figs. 4 and 5 are transverse sections thereof in lines 4-4 and 5-5, respectively, Fig. 2.

Like letters of reference refer to like parts in the several figures.

The bolster is made of steel and cast in one integral piece. The greatest part of the weight carried by the bolster falls on its central or intermediate portion, and it is this portion also which largely receives the strains and shocks incident to the drawing of the cars and the bumping of the cars in coupling. Therefore to give the bolster the requisite strength and rigidity, especially at its middle, without unduly increasing its weight it is made of greater depth and width centrally than at its ends—that is to say, it tapers from its middle portion toward its ends both vertically and horizontally.

The bolster has a flat top wall A and a bottom wall B, which is flat at the middle of the bolster and inclines upwardly from this middle portion to the ends of the bolster. Said top and bottom walls A and B are connected at each end portion of the bolster by a single centrally-disposed vertical web C and between the latter by vertical webs or walls D, which are spaced apart at their middle portions and converge toward and merge into said end vertical webs C. The spaced vertical webs D are connected near the middle of the bolster by cross vertical walls E, which with the webs D and the top and bottom walls form a hollow box or inclosure, giving the bolster great strength and stiffness at its middle both horizontally and vertically. A central vertical

hollow column F, connected to the vertical webs D by cross-webs  $f$ , affords a bearing for the truck king-pin.

The bolster is provided at its ends with seats  $g$  for the car side sills, and its top wall has lateral bearing lugs or extensions  $g'$ , on which the center and intermediate car-sills bear and to which they are bolted. The bolster is lightened and its construction made possible by holes  $h$  in the top and bottom walls between the spaced vertical webs D and holes  $h'$  and  $h''$  in the vertical webs and cross-walls E, respectively.

I represents lugs which project forwardly from the middle of the bolster or in a direction toward the end sill of the car, to which the bolster is applied for the attachment of draft-beams, and I' represents similar lugs projecting from the opposite side of the bolster for the attachment of beams which connect the two bolsters at the opposite ends of the car.

The cast-steel bolster above described can be produced economically, is light, rigid, and of great carrying strength.

I claim as my invention—

1. A single-piece cast-steel bolster which tapers vertically from its middle toward its ends and comprises top and bottom walls connected at each end by a single vertical web and between its ends by spaced vertical webs which converge toward and merge into said end vertical webs, substantially as set forth.

2. A single-piece cast-steel bolster which tapers vertically from its middle toward its ends and comprises top and bottom walls connected at each end by a single vertical web and between its ends by spaced vertical webs which converge toward and merge into said end vertical webs, and cross-walls connecting the middle portions of said spaced vertical webs, substantially as set forth.

3. A single-piece cast-steel bolster having a flat top wall and a bottom wall which inclines upwardly from the middle toward the ends of the bolster, said top and bottom walls being connected at each end of the bolster by a single vertical web, and between the ends of the bolster by spaced vertical webs which converge toward and merge into said end vertical webs, and said top and bottom walls having holes between said spaced vertical webs, substantially as set forth.

4. A single-piece cast-steel bolster which tapers vertically from its middle toward its

ends and comprises top and bottom walls connected at each end by a single vertical web and between its ends by spaced vertical webs which converge toward and merge into said  
5 end vertical webs, and lugs projecting from the opposite sides of the middle of the bolster, substantially as set forth.

Witness my hand this 7th day of February, 1905.

HENRY H. VAUGHAN.

Witnesses:

GEO. EDWARDS,  
N. HENDERSON.