

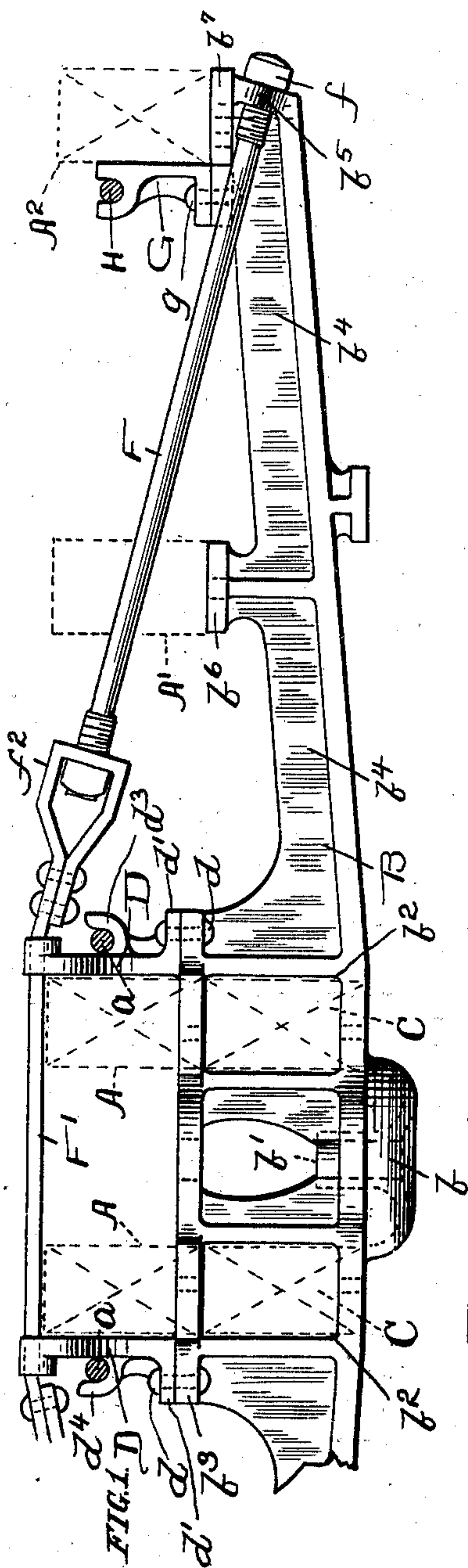
No. 671,119.

**Patented Apr. 2, 1901.**

**O. M. STIMSON.**  
**BOLSTER FOR RAILWAY CARS.**

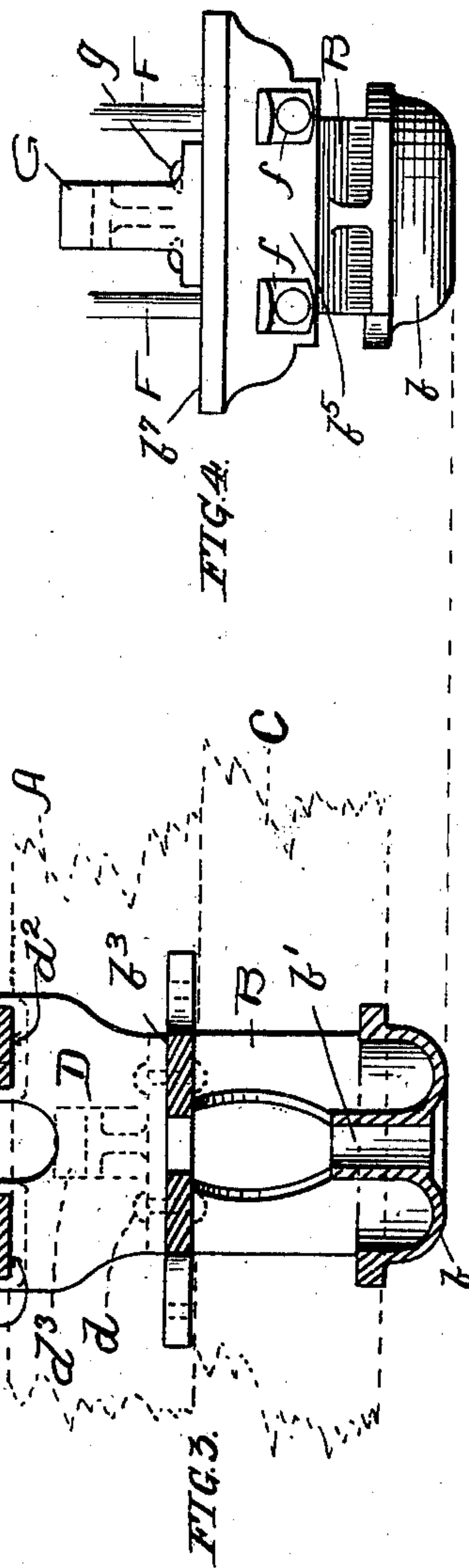
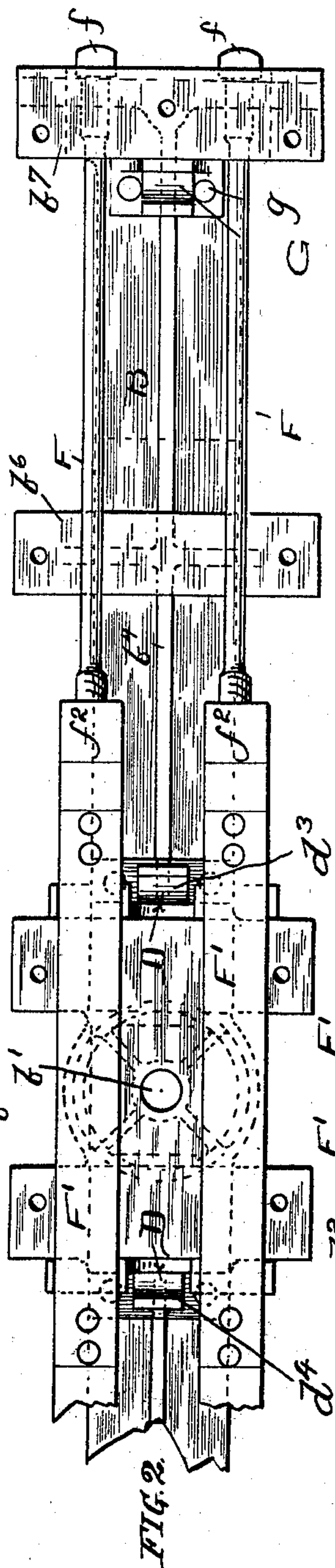
(Application filed Sept. 1, 1900.)

(No Model.)



**WITNESSES:**

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# UNITED STATES PATENT OFFICE.

OSCAR M. STIMSON, OF CHICAGO, ILLINOIS.

## BOLSTER FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 671,119, dated April 2, 1901.

Application filed September 1, 1900. Serial No. 28,733. (No model.)

*To all whom it may concern:*

Be it known that I, OSCAR M. STIMSON, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Bolsters for Railway-Cars, of which the following is a specification.

My invention relates to bolsters for railway-cars.

The object of my invention is to provide a cast-steel body-bolster for railway-cars of a simple, strong, efficient, and durable construction which will properly cooperate with the longitudinal sills and the draft-timbers of the car-body and which at the same time may be manufactured at comparatively small cost.

My invention consists in the novel construction of parts and devices and in the novel combinations of parts and devices which I employ to practically accomplish this important object or result and which is herein fully shown and described, and particularly pointed out or specified in the claims.

In the accompanying drawings, forming a part of this specification, Figure 1 is a side elevation, and Fig. 2 a plan view, of a car-body bolster embodying my invention. Fig. 3 is a central vertical cross-section, and Fig. 4 an end view.

In the drawings, A A represent the longitudinal center sills, A' the intermediate sills, and A<sup>2</sup> the side sills, of the car-body, and C the draft-timbers.

B is the cast-steel body-bolster, and D D the saddles or blocks over which the truss-rods F and truss-rod straps F' pass, both of which are of wrought metal, iron, or steel.

The cast-steel bolster B is furnished with an integral center plate *b* at its middle and with a vertical opening *b'* for the king-bolt to pass through. It is also provided at its middle, on each side of the king-bolt opening, with openings *b<sup>2</sup> b<sup>2</sup>* to receive the draft-timbers C of the car and through which the same pass.

The cast bolster B is also furnished with an upper integral plate *b<sup>3</sup>*, upon which the truss-rod saddles or blocks D D rest and to which they are rigidly secured by rivets or bolts *d*, which pass through the base-flanges *d'* of the saddles and through the projecting ends of the top plate or flange *b<sup>3</sup>* of the bolster B.

The cast-steel bolster B is also provided with

one or more vertical webs or flanges *b<sup>4</sup>* to give the bolster the necessary strength and rigidity and with inclined end flanges *b<sup>5</sup>*, through which the truss-rods F pass and which afford firm abutments or bearings for the heads or nuts *f* of the truss-rods. The cast-steel bolster B is further provided with flat plates or seats *b<sup>6</sup> b<sup>7</sup>* for the intermediate and side longitudinal sills A' A<sup>2</sup> to rest upon or against. The integral plate or flange *b<sup>7</sup>* also affords a seat or bearing for the saddles G of the longitudinal truss-rods H, and which saddles are secured thereto by rivets or bolts *g*.

The truss-rods F pass through diagonally extending or inclined holes formed in the intermediate sills A'. The saddles or blocks D are furnished with seats *d<sup>2</sup>* to receive the truss-rod straps F', which are preferably flat bars of soft steel or wrought-iron and furnished each with an integral bail or loop *f<sup>2</sup>*. The saddles D are also furnished with seats *d<sup>3</sup> d<sup>4</sup>* to receive the longitudinal truss-rods *a* of the center sills A. The saddles D are equal in height to the vertical thickness or height of the center sills of the car-body, so that space is thus afforded between the truss-rod straps F' and the top plate *b<sup>3</sup>* of the bolster for the center sills. This gives a very great depth to the truss and bolster at the center, and thus gives the bolster very great strength. By this construction the extreme vertical depth of the bolster may be sixteen or seventeen inches, while at the same time the side sills and intermediate sills are applied without the necessity for making any gains therein, and the center sills require only a slight notch or gain, the extent of which is the thickness of the top plate *b<sup>3</sup>*, and the draft timbers or beams are enabled to extend through the bolster, which is a very important feature for the strength and safety of the car as a whole.

My improved bolster while possessing very great strength and rigidity may also be manufactured at comparatively small cost, as the weight or amount of cast-steel in the bolster B proper is comparatively small for the strength produced. The wrought-metal trusses F F', the cost of which per pound is only about one-fourth that of the cast-steel in the bolster and which serve as the tension member of the bolster, while the cast portion B serves as the compression member thereof,



afford great tensile strength to the bolster, while adding but slightly to the cost, and thus diminish the amount of cast-steel that would otherwise be required, and enable an extremely strong and efficient cast-steel bolster to be made by simply employing a sufficient weight of the more expensive cast-steel to give the requisite compression strength. In my improved construction of bolster also both the cast metal for the compression strain and the wrought metal for the tensile strength of the bolster are located or disposed to the best advantage or so as to give the greatest strength to the bolster for the amount of metal employed consistent with their proper cooperation and combination with the sills, draft-timbers, and other parts of the car or with the fixed conditions of car construction, controlling within limits the shape and size of the bolster. In other words, I secure by my improvement a maximum center depth of the bolster, in connection with the proper disposition of the cast-steel metal for giving a maximum compression strength to the compression member and also a proper disposition of the wrought metal for giving the maximum tensile strength to the tensile acting member. My bolster therefore possesses very great strength for the cost and weight of metal employed.

I claim—

1. The cast-steel body-bolster B for railway-cars, having integral center plate  $b$  and top plate  $b^3$  furnished with openings  $d^2 d^2$  for the draft-timbers to pass through, and provided with a vertical web  $b^4$ , end flanges  $b^5$  and longitudinal integral plates or flanges  $b^6 b^7$  for the side and intermediate sills, in combination with center saddles D D secured to the bolster and extending to the top of the center sills, and wrought-metal trusses F F' extending

tending over said center saddles and secured to the ends of the bolster, substantially as specified.

2. The combination with a cast-steel bolster B, having central openings through the same to receive the draft timbers or beams, center saddles resting thereon and extending to the top of the center sills, and wrought-metal trusses extending over the center sills and saddles and secured to the ends of the bolster, substantially as specified.

3. The combination with a cast-steel bolster furnished with openings to receive the draft timbers or beams, center intermediate and side sills passing over the cast-steel bolster, and bolster truss-rods extending over the center sills, through the intermediate sills and secured to the ends of the bolster, substantially as specified.

4. The combination with a cast-steel bolster, of center intermediate and side sills passing over the cast-steel bolster, and truss-rods extending over the center sills, through the intermediate sills and secured to the ends of the bolster, substantially as specified.

5. The combination with the center, intermediate and side sills of a car-body, of a cast-steel bolster extending under said sills and having integral upper plates, flanges or seats fitting against the sills, of saddles D D secured to the bolster outside of the center sills, the saddles G secured to the bolster inside the side sills, truss-rods F and truss-rod straps F' extending over the center sills and center saddles and under the side sills and secured to the ends of the bolster, substantially as specified.

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Witnesses:

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