No. 720,528. PATENTED FEB. 10, 1903.

H. T. KRAKAU.

BOLSTER.

APPLICATION FILED OCT. 14, 1901.

NO MODEL. 2 SHEETS—SHEET 1.

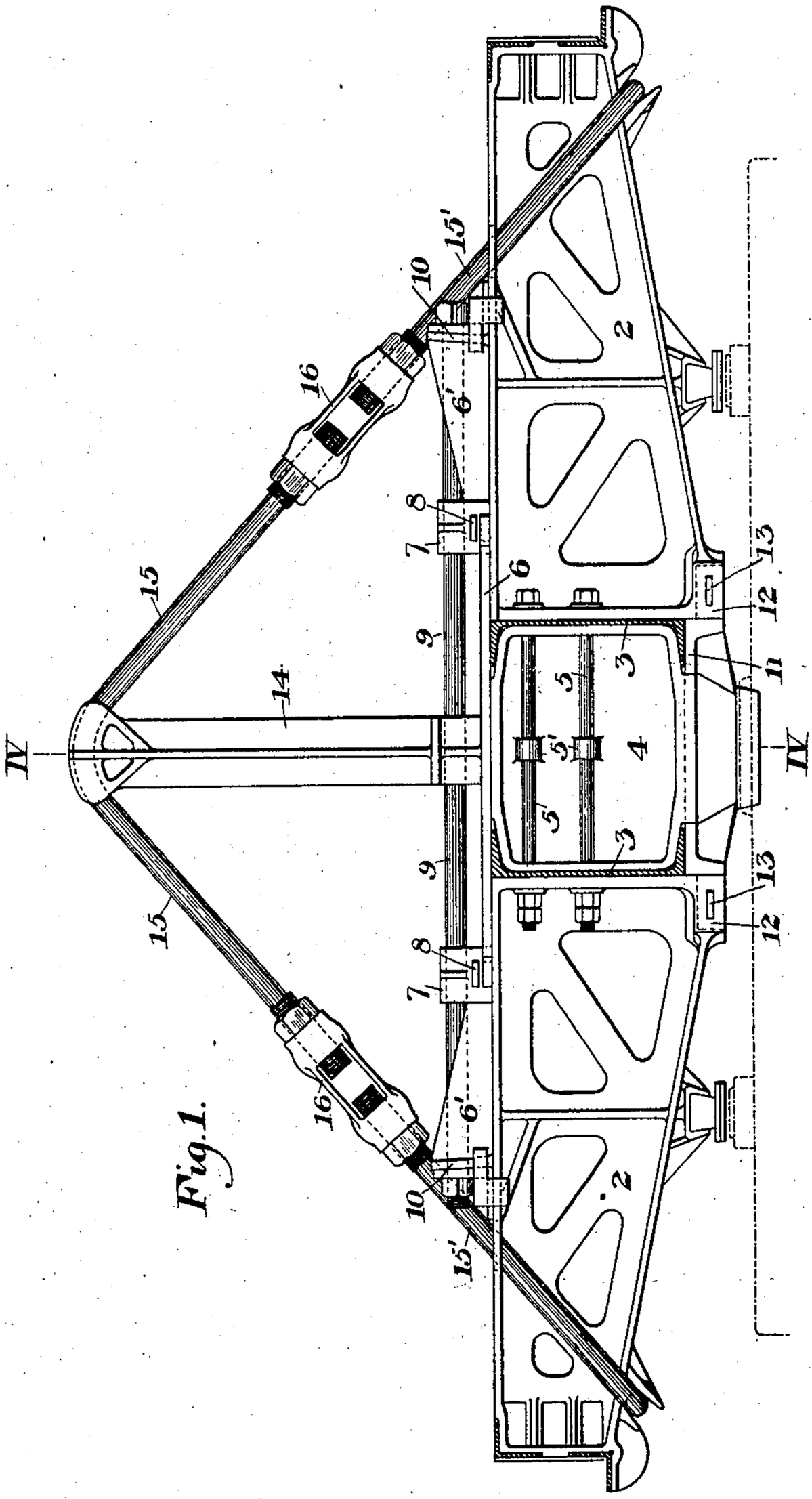

Fig. 1.

WITNESSES

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INVENTOR

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NO MODEL. 2 SHEETS—SHEET 2

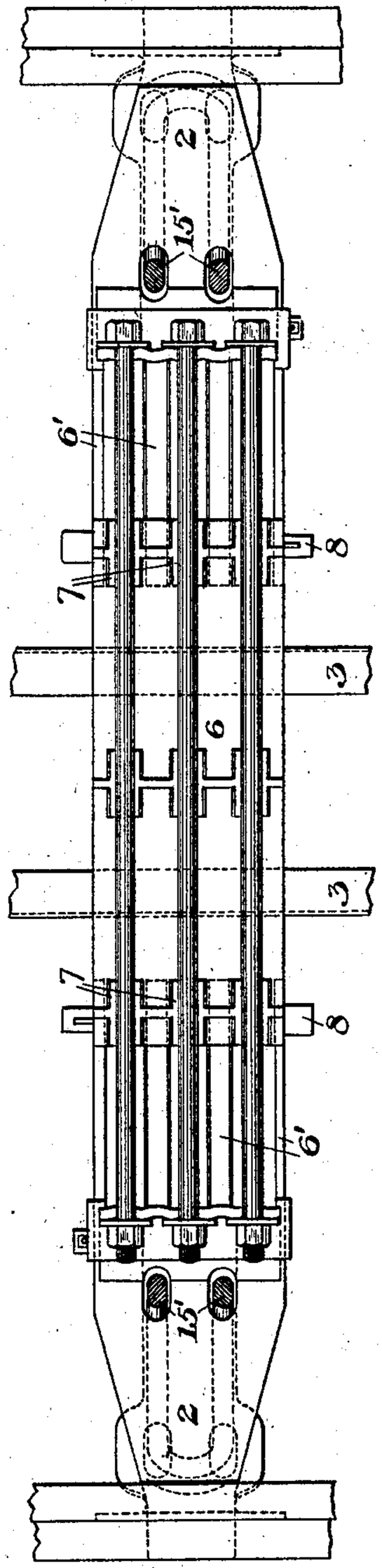

Fig. 2.

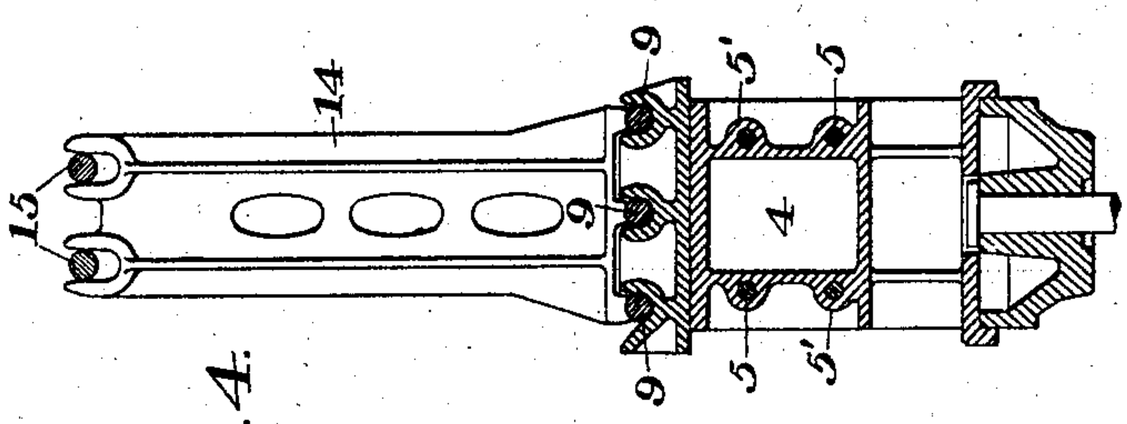

Fig. 4.

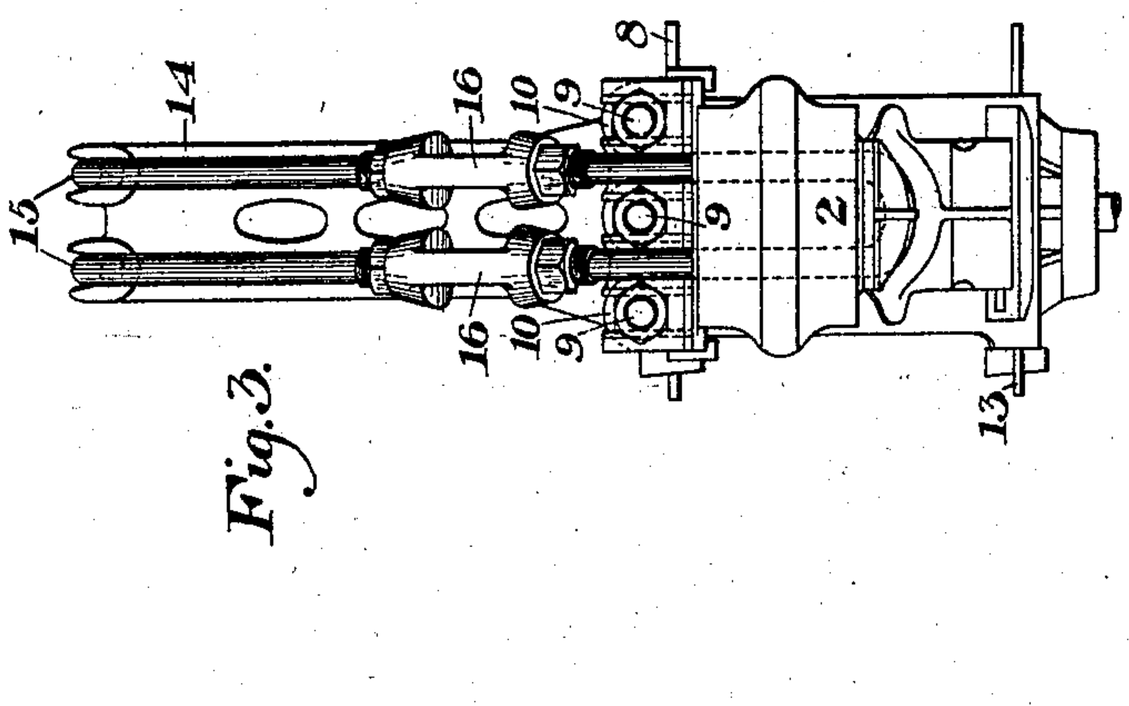

Fig. 3.

WITNESSES

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UNITED STATES PATENT OFFICE.

HARRY T. KRAKAU, OF CLEVELAND, OHIO, ASSIGNOR TO THE NATIONAL MALLEABLE CASTINGS COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO.

BOLSTER.

SPECIFICATION forming part of Letters Patent No. 720,528, dated February 10, 1903.

Application filed October 14, 1901. Serial No. 78,546. (No model.)

To all whom it may concern:

Be it known that I, HARRY T. KRAKAU, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a new and useful Bolster, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a front elevation of my improved bolster. Fig. 2 is a top plan view, partly in section. Fig. 3 is an end elevation of Fig. 1. Fig. 4 is a vertical section on the line IV IV of Fig. 1.

Great difficulty has been experienced in the construction of railway-cars by reason of weakness of the bolsters, which after the car has been in use generally sag down at the ends upon the side bearings and therefore throw strain upon the wheels and increase the force required to haul the car on curved tracks. My invention is designed to overcome this and other evils which result from the weakness of bolsters and to provide a bolster capable of resisting successfully the heavy burdens to which it is subjected when in service. For this purpose I employ in connection with the bolster a king-post and truss-rods, which extend from the king-post to the end portions of the bolster and support the same, transferring the burden from the ends of the bolster to the middle thereof. I also prefer to make the bolster in sections and to employ on the upper side a tension plate or member which binds the sections together and on the under side a compression plate or member which is interposed between two of the sections and is keyed thereto.

The drawings show the preferable construction of my bolster; but the construction may be varied by those skilled in the art without departure from my invention.

2 2 are the outer sections of the bolster, between which are channel-beams 3 3, which constitute the center sill of the car, and between these channel-beams is an interposed filler-block 4, preferably made of a ribbed steel casting. Bolts 5 5 connect these parts together at the middle of the bolster and pass through lugs 5′ on the filler-block.

6 is a tie-plate which extends upon and between the end sections of the bolster and fits over lugs 7, which project upwardly from the latter. Keys 8 8 pass through these lugs and through registering lugs 6′ on the tie-plate and serve to draw the parts together, and the end sections may be held also by tie-rods 9 9, which pass through lugs 10 on the bolster-sections and may rest in grooves on the surface of the tie-plate. The compression member 11, above referred to, is made integral with the center-plate of the bolster and is interposed on the lower side of the bolster between shoulders 12 12 on the bolster-sections, being held firmly thereto by keys 13.

14 is the king-post, which extends upwardly from the middle of the bolster and is preferably grooved at the top to receive the sections 15 15 of the truss-rods, which are preferably bent in angular form, pass over the king-post, being imperforate at their connection therewith, and are connected by nuts or turnbuckles 16 with the other sections 15′, which are preferably of U shape, being provided with looped portions which pass around or through the end portions of the bolster near their extremities. The device thus constitutes an efficient truss and enables me with a given weight of metal to construct a bolster of greater rigidity and strength than heretofore. It also enables me to dispense largely with rivets and affords a bolster easy to assemble and to repair.

I do not limit myself to the employment of the truss-rods with a bolster made in sections, though that is preferable; but

What I claim is—

1. A bolster made of end sections, an intermediate section, a tie-plate, and keys passing through lugs on tie-plate and end sections and connecting the same; substantially as described.

2. A bolster having an upwardly-extending king-post, and truss-rods extending therefrom to the end portions of the bolster, said truss-rods being in adjustably-connected sections, the section next to the bolster being of U form; substantially as described.

3. A bolster made of end sections, and an intermediate section, a tie-plate connecting the end sections and keyed thereto, and tie-rods also connecting said sections; substantially as described.

4. A bolster made of end sections and an intermediate section, a tie-plate connecting the

end sections and secured thereto by fastening devices which pass through registering lugs on the tie-plates and bolster-sections; substantially as described.

5. A bolster made of end sections, and an intermediate section; a king-post set on the intermediate section and truss-rods; substantially as described.

6. A bolster made of end sections and an intermediate section, and a compression member on the under side of the bolster set between shoulders on the end sections; substantially as described.

7. A bolster made of end sections, and an intermediate section, a compression member on the under side of the bolster set between shoulders on the end sections, and made integral with the center-plate; substantially as described.

8. A bolster having an upwardly-extending king-post, and having looped portions which connect it with the bolster; substantially as described.

9. A bolster having an upwardly-extending king-post, and truss-rods which extend in angular form from the king-post and have sections 15′ of U shape connected to the bolster; substantially as described.

In testimony whereof I have hereunto set my hand.

HARRY T. KRAKAU.

Witnesses:
D. W. CALL,
E. W. WHITTEMORE.