

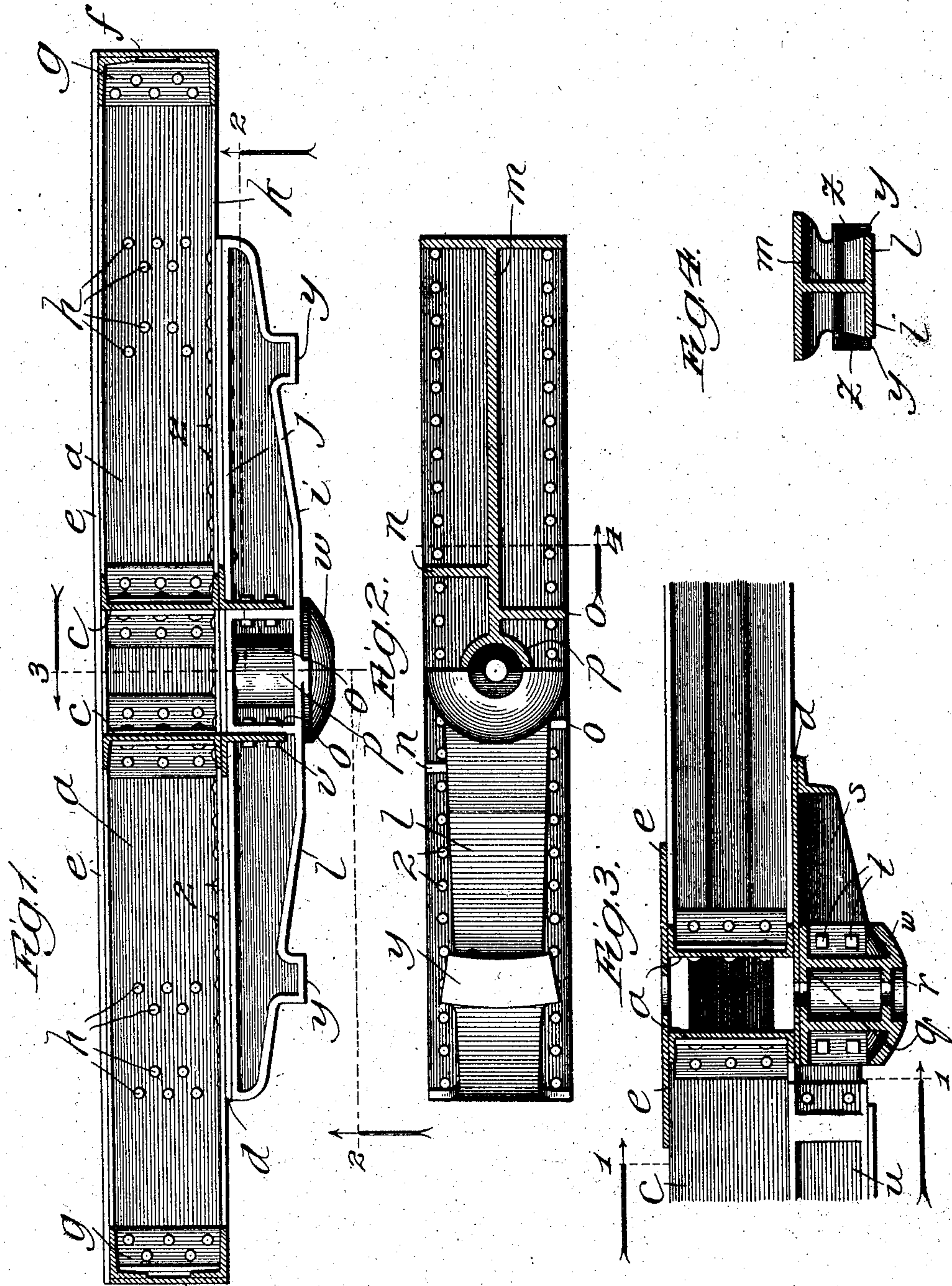
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PATENTED OCT. 18, 1904.

O. W. MEISSNER.  
RAILWAY CAR.

APPLICATION FILED OCT. 15, 1903.

NO MODEL.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

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## RAILWAY-CAR.

SPECIFICATION forming part of Letters Patent No. 772,572, dated October 18, 1904.

Application filed October 15, 1903. Serial No. 177,152. (No model.)

*To all whom it may concern:*

Be it known that I, OTTO W. MEISSNER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, am the inventor of certain new and useful Improvements in Railway-Cars, of which the following is a specification.

My invention relates to that class of railway-cars having transverse beams forming part of the bottom frame of the car and provided with a bolster of less length than such beams rigidly attached to the lower side thereof.

The principal object of my invention is to provide a simple, economical, and efficient body-bolster and bottom-frame mechanism for railway-cars.

Other and further objects of the invention will appear from an examination of the drawings and the following description and claims.

My invention consists in the features, combinations, and details of construction hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a view in elevation of a body-bolster and transverse-beam mechanism constructed and connected in accordance with my improvements; Fig. 2, a bottom plan view of the bolster, partly in longitudinal section; Fig. 3, a sectional elevation taken on line 3 of Fig. 1 looking in the direction of the arrow, showing the bolster and transverse-beam mechanism in cross-section and the longitudinal beams with the filler and binding plates connected to such bolster and transverse-beam mechanism; and Fig. 4, a sectional view in elevation of the bolster, taken on line 4 of Fig. 2 looking in the direction of the arrow.

In constructing a railway-car provided with a bottom framework comprising transverse-beam mechanism and body-bolster mechanism constructed and arranged in accordance with my improvements I provide a plurality of transverse beams arranged in sets, each comprising a pair of channel-beams *a*, which extend transversely of the car from side to side thereof and which are connected by means of inserts or connecting-plates *b*, riveted to the

vertical web portions of such channel-beams. Longitudinal beams *c*, which may also be formed of channel-iron, are connected to the transverse beams, as shown in Fig. 3, and extend from each set of such beams in one direction to the next adjacent set, to which they are attached in a similar manner, and in the opposite direction to the end sills of the car, as shown, to which they are attached in substantially the same or in any desired manner. A filler-plate *d* is mounted at the under side of the transverse beams and extends outward laterally thereof in engagement with the under side of the longitudinal beams, and an upper binding-plate *e* extends, preferably, the full length of the transverse beams, upon the upper side thereof, and out laterally therefrom in engagement with the upper sides of the longitudinal beams. Side sills *f* extend the entire length of the car from end sill to end sill and are connected to the ends of the transverse-beam mechanisms above described by means of angle-plates *g* and to the end sills in a similar manner. Intermediate longitudinally-extending beams (not shown) extend from one set of transverse beams to the other at the points indicated by rivets *h*, by means of which they are attached to such transverse beams, and from the transverse beams to the end sills, to which they are connected in a similar manner.

To provide suitable supports for the bottom frame, a pair of body-bolsters *i* are each attached to one of the transverse-beam mechanisms above described, as shown in Figs. 1 and 3. These body-bolsters are formed, preferably, of one integral piece of cast metal and comprise upper flange portions *j*, which are connected with the lower flanges *k* of the transverse beams and with the filler-plates *d*, already described, by means of rivets, as shown in Fig. 1. Such upper flange portions of each bolster are connected with the bottom portion or lower flanges *l* by means of an integral longitudinal center web *m*, laterally-extending webs *n* and *o*, and an integral central and preferably cylindrical web portion *p*, which is adapted to permit the in-



section of the king-bolt into position in the perforations in the upper wall *q* and the lower wall *r* of such bolster. The upper binding-plate and filler-plate already described are  
 5 also provided with corresponding perforations for the purpose of admitting such bolt. Suitable struts *s* are provided on one side of each bolster, extending outward laterally thereof  
 10 to the edge of the filler-plate to which they are connected, such struts being attached to the bolster, as shown in Fig. 3, by means of bolts *t* or in any ordinary and well-known manner, and draft-beams *u* are attached to the  
 15 opposite side of the bolster by means of bolts *v* and to the longitudinal center beams by means of rivets or in any ordinary and well-known manner.

The bolster is provided with a central bearing-plate *w*, which, as shown in Fig. 3, is  
 20 preferably integral with the main body portion, and side bearings *y* are provided near the opposite ends of the bolster, also, preferably, integral with the main body portion thereof, and at points substantially beneath  
 25 the points where the intermediate longitudinal beams are connected to the transverse beams. Downwardly-extending side portions *z*, integral with the main body portion of such bolster, form suitable portions for withstanding  
 30 the strains to which the side bearings are subjected.

The bolster above described, as already suggested, is of less length than the transverse-beam mechanism to which it is connected and  
 35 extends only a sufficient distance toward the opposite side of the car to enable the side bearings to be substantially beneath the intermediate longitudinal beams, so that the weight of such intermediate beams rests upon  
 40 or directly over the ends of the bolster. The filler-plate *d* also extends only to the ends of the bolster, such filler-plate and bolster being firmly attached to the transverse beams by means of rivets 2, which extend through  
 45 the lower flanges of the transverse beams and through the filler-plate and upper wall or flange of the bolster, as shown in Fig. 1. By this arrangement a bottom frame is provided comprising longitudinal and transverse beams  
 50 having their upper surfaces on substantially the same plane, the intermediate longitudinal beams being supported by the ends of the short bolster, which extends beneath but not beyond such beams. The side bearings of  
 55 the bolsters are substantially beneath the point of connection between the intermediate longitudinal beams and transverse beams, and such bolster being firmly attached to the transverse beams, as already described, it will  
 60 be readily appreciated that an economically constructed and comparatively light body-bolster and bottom frame of great rigidity and strength is thus provided.

I claim—

65 1. In a railway-car, the combination of a

bottom frame comprising a plurality of sets of transverse beams, and a one-piece body-bolster formed of cast metal rigidly connected to the under side of a plurality of such transverse beams, substantially as described. 70

2. In a railway-car, the combination of a bottom frame comprising a plurality of sets of transverse beams, and a one-piece body-bolster for each set of such transverse beams provided with a central longitudinal web portion and having integral upper lateral flanges  
 75 extending from the upper side of such central web portion and rigidly connected to the under side of such beams, substantially as described. 80

3. In a railway-car, the combination of a bottom frame comprising a plurality of sets of transverse beams, a one-piece body-bolster for each set of such transverse beams rigidly connected to the under side thereof and provided  
 85 with integral center and side bearings, substantially as described.

4. In a railway-car, the combination of a bottom frame comprising a plurality of sets of transverse beams, a one-piece body-bolster of  
 90 less length than such transverse beams connected to the under side of each set thereof and provided with center and side bearings on its under side, and a filler-plate interposed between the lower side of such transverse  
 95 beams and the bolster and connected thereto, substantially as described.

5. In a railway-car, the combination of a bottom frame comprising a plurality of sets of transverse beams, a one-piece cast-metal body-bolster rigidly connected to the under side of each set of such transverse beams, and a filler-plate interposed between the lower side of such transverse beams and the bolster and connected thereto, substantially as described. 105

6. In a railway-car, the combination of a bottom frame comprising transverse beams extending from side to side of the car, intermediate longitudinal beams having their upper surfaces flush with the upper surfaces of  
 110 such transverse beams, side sills mounted at the outer ends of such transverse beams, and a one-piece body-bolster rigidly connected with the under side of the transverse beams extending beneath but not substantially beyond the intermediate center beams and provided with integral side bearings substantially beneath such intermediate longitudinal beams, substantially as described. 115

7. In a railway-car, the combination of a  
 120 bottom frame comprising a plurality of sets of transverse beams, longitudinal beams attached thereto having their upper surfaces flush with the upper surfaces of the transverse beams, and a one-piece body-bolster for each set of  
 125 transverse beams rigidly attached to the under side thereof and having integral center and side bearings, substantially as described.

8. In a railway-car, the combination of a bottom frame comprising longitudinal center, 130



intermediate and side beams and having transverse beams extending from side to side of the car such transverse beams being formed of channel-iron and arranged in sets, an upper  
5 binding-plate for each set of such transverse beams connecting the members thereof and extending over the longitudinal beams, a body-bolster for each set of transverse beams attached to the lower set thereof and extending  
10 beneath but not substantially beyond the intermediate longitudinal beams and provided with side bearings arranged substantially beneath the intermediate longitudinal beams, center bearings upon such bolster, and a filler-  
15 plate interposed between the lower side of such transverse beams and the bolster and connected thereto, substantially as described.

9. In a railway-car, the combination of a bottom frame comprising a plurality of sets of  
20 transverse beams, and a one-piece body-bolster for each of such sets of transverse beams provided with a central web portion extending longitudinally thereof and having integral upper lateral flanges rigidly connected to such  
25 beams and integral side bearings upon the lower side of such bolster, substantially as described.

10. In a railway-car, the combination of a

bottom frame comprising a plurality of sets of transverse beams, a binding-plate mounted  
30 upon the upper side of each set of such transverse beams, a one-piece body-bolster for each set of such transverse beams provided with a central web portion extending longitudinally  
35 thereof and having integral upper lateral flanges rigidly connected to such beams, and center and side bearings upon the lower side of such bolster, substantially as described.

11. In a railway-car, the combination of a bottom frame comprising a plurality of sets of  
40 transverse beams, a binding-plate mounted upon the upper side of each of such transverse beams, a one-piece body-bolster for each set of such transverse beams provided with a central web portion extending longitudinally  
45 thereof and having integral upper lateral flanges rigidly connected to such beams and integral side bearings upon the lower side of such bolster, and a filler-plate interposed between the lower side of the transverse beams  
50 and the bolster and connected thereto, substantially as described.

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