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HEAD FRAME FOR RAILWAY CAR BODIES.

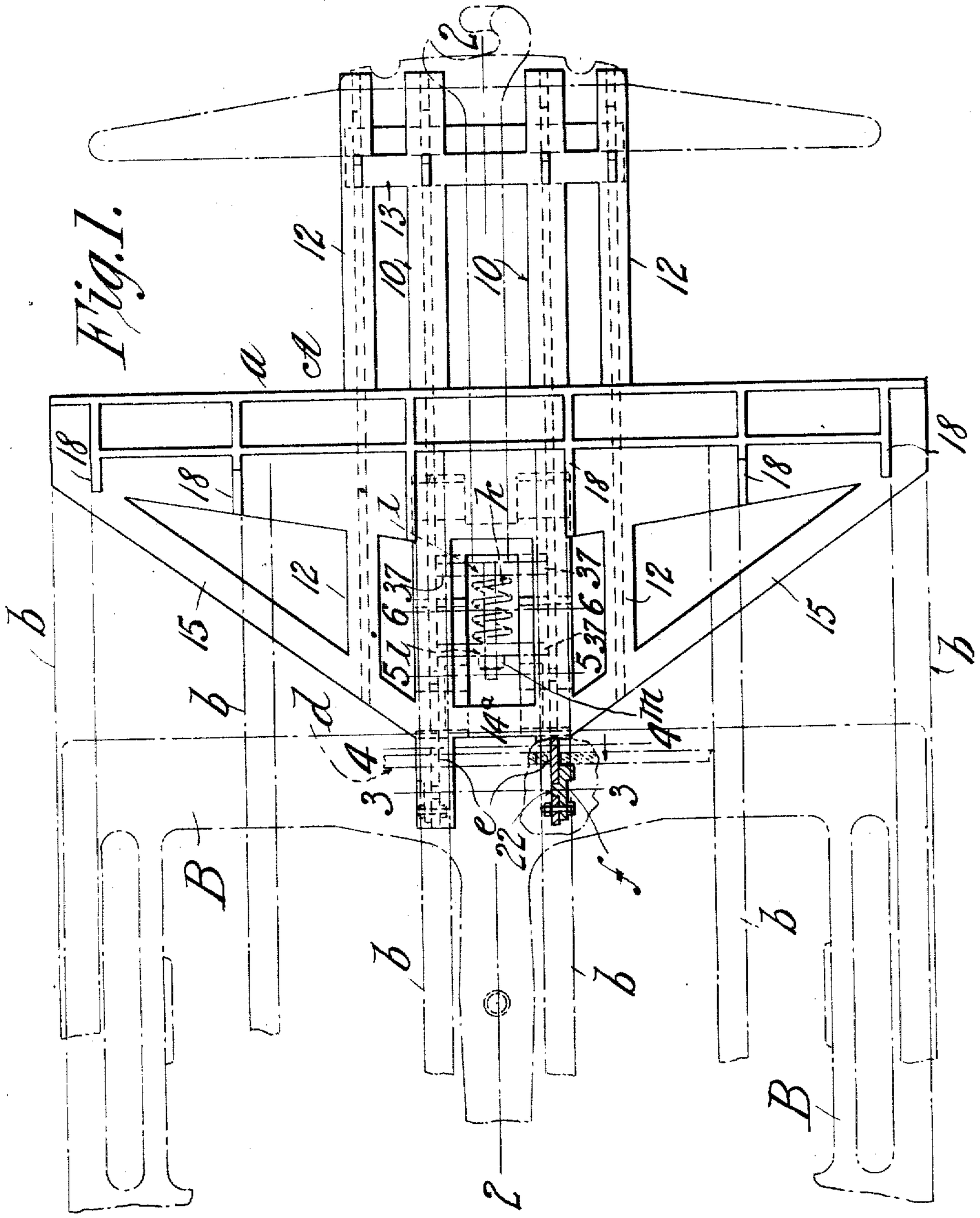
APPLICATION FILED JULY 15, 1908.

930,277.

Patented Aug. 3, 1909.

2 SHEETS—SHEET 1.

Fig. 1.



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2 SHEETS—SHEET 2.

Fig. 2.

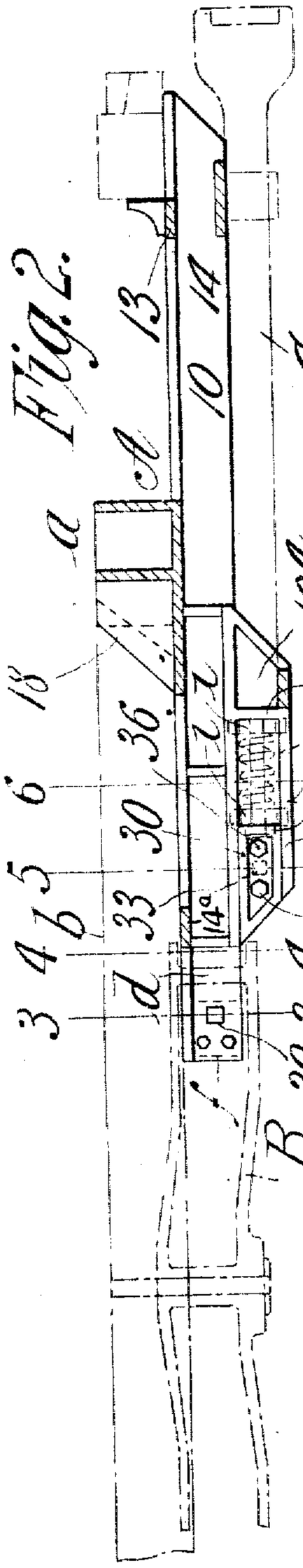

Fig. 4.

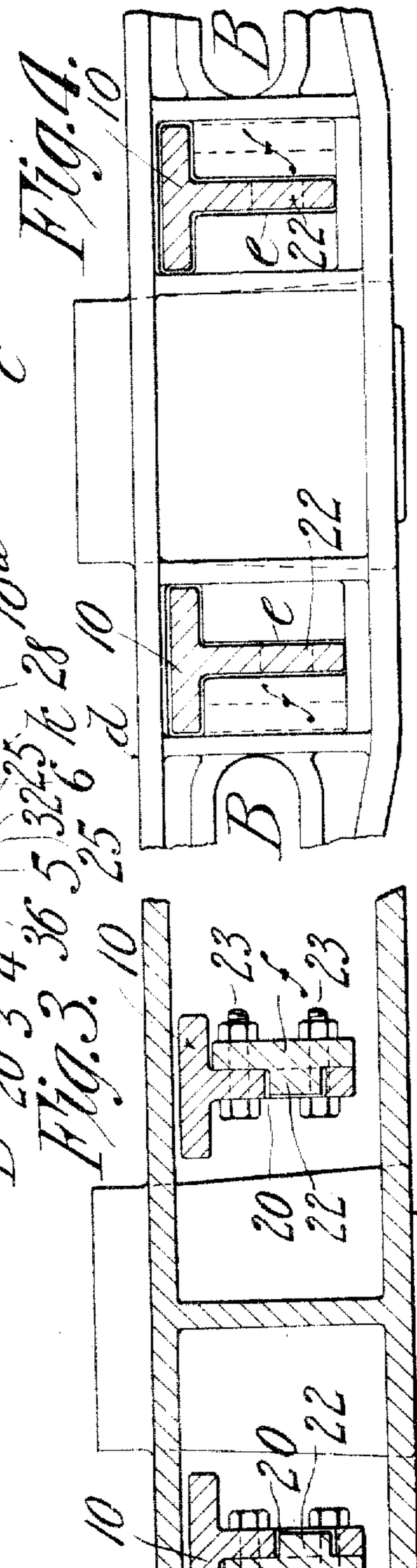

Fig. 6.

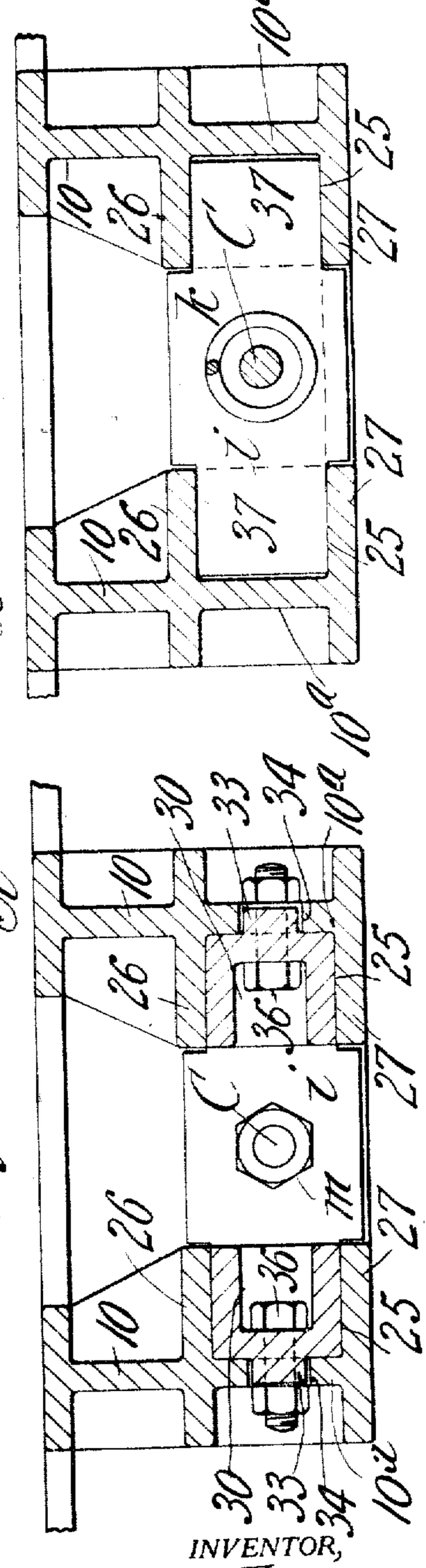

Fig. 5.

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HEAD-FRAME FOR RAILWAY-CAR BODIES.

No. 930,277. Specification of Letters Patent. Patented Aug. 3, 1909.

Application filed July 15, 1908. Serial No. 443,723.

To all whom it may concern:

Be it known that I, CHARLES M. EVANS, a citizen of the United States of America, and resident of Springfield, in the county of Hampden and State of Massachusetts, have invented certain new and useful Improvements in Head-Frames for Railway-Car Bodies, of which the following is a full, clear, and exact description.

This invention relates to improvements in the construction of bodies of railway cars, both passenger and freight, and particularly pertains to the construction of the head frame, or structure at each end of the under frame of the car body.

One object of the invention is to simplify the head frame construction whereby it may be provided as a single appliance constituted, advantageously, of cast steel and adapted in the making up of the car body to receive connection with members thereof of the bolster, the floor sills, the platform cross beam and the draw bar.

The improvements also especially pertain to constructions and combinations of parts for the connection of the head frame with the bolster.

The invention is illustrated in the accompanying drawings in which:—

Figure 1 is a plan view showing the head frame in full lines and indicating by broken lines the bolster, the floor sills, the draw bar and the horizontal transverse member for constituting the forward end support for the platform. Fig. 2 is a vertical longitudinal section on line 2—2, Fig. 1. Figs. 3, 4, 5 and 6 are cross sectional views on a larger scale as taken respectively on the lines 3—3, 4—4, 5—5, and 6—6, Figs. 1 and 2.

In the drawings, A represents the integrally cast structure for the end portion of the bottom of a railway car body and which structure is herein for brevity termed the "head frame". The frame while susceptible of varied design may practicably comprise members which will be described in detail and in their relations one to another as follows:—

10, 10, indicates separated parallel horizontal and longitudinally ranging bars outside of which, in separation therefrom and in parallelism therewith, are similar longitudinally ranging bars 12, these all being of T-shape in cross section forwardly united by upper and lower transverse cross tie bars 13 and 14, intermediately traversed and also united by the floor sill attachment girder *a* and rearwardly united, at a comparatively short distance forward of the rear ends of the bars 10, 10, by the cross bar 14^a; and the oblique, horizontally disposed webs or brace bars 15, 15, are made integrally with and unite the rear ends of the bars 10, 10, to the rear ends of the shorter bars 12, 12, and the opposite outer ends of the floor sill girder, the intersection of said oblique brace bars 15 with the bars 10, 10 being near the junctions with the latter integrally formed horizontally cross bar 14^a.

The floor sill girder is approximately of an extent, transversely equal to the full width of the head frame, and being extended at either side beyond the bars 10 and 12,—corresponding to the width of the car body, and stands, as shown in Fig. 2, above the plane of the upper surfaces of the bars 10 and 12 and has cheek flanges or webs 18, 18, in vertical and longitudinally extending parallel planes for the connections therewith, by bolting or riveting, of the car body sills represented by the dotted lines *b b*.

The bolster B comprises at its forward end a cross beam or bar *b* having through the webbed portion of its channel iron formation two T-shaped apertures *e* through which the rear extremities of the T-shaped bars 10, 10, of the head frame may be slid or fitted to receive at their portions protruding rearwardly beyond the cross member *d* of the bolster, detachable engagement means for uniting the head frame and bolster and yet readily permitting of their disconnection as occasion therefor may become desirable.

The means of the connection or engagement just referred to is represented in Figs. 1, 2, 3 and 4 and consists of blocks or plates *f f* which lie along and against the outer faces of the median members of the T-shaped head frame bars 10, 10, which are provided with square apertures 20, within which apertures in the bars 10, square dowels,—integrally formed with and extending transversely from the faces of the blocks *f*, have closely fitting engagements. The forward ends of the blocks are in abutment against the rear face of the web of the bolster beam *b* for an increase in the stability of the construction, and the blocks or plates are confined against and alongside

the bars 10, 10, by the bolts 23. The connection or engagement blocks *f f*, confined on the sides of the head frame bars 10, 10, engaged by their forward ends with the web of the bolster beam, engaged by their upper edges with the flanges of the bars 10 and having the square dowel and socket engagements with the bars 10 constitute means for reliably, stably and rigidly connecting the head frame and bolster with the capability, as hereinabove indicated, of conveniently connecting and disconnecting the structures. The head frame comprises structural features yet to be described for the disposition therein and engagement therewith of the draw bar buffer plates or connections.

The parallel separated bars 10, 10, suitably forward of the bolster connections are downwardly widened or extended as shown at 10^a, 10^a Figs. 2, 5, and 6, and they are made with inwardly opening pockets or channels 25, 25, as produced by the upper and lower flanges 26, and 27. These pockets or channels have forward end wall abutments 28; and, as well as oppositely sidewise opening inwardly, these channels endwise open rearwardly, and receive, rearwardly located therein, at a somewhat extreme distance to the rear of the abutments 28 (which are preferably integral with the parts 10^a, 26 and 27) removable abutments 30, 30, which are constructed in the form of cored-out blocks provided with dowels, or outwardly projecting studs 33, which engage, with close fits, in sockets or mortises 34 in the portions 10^a, 10^a, which constitute the vertical walls of the longitudinal channels. The abutment members 30, 30, are secured in the channels or pockets 25, 25, at either side of the line of the draw bar by the bolts 36.

The draw bar C centrally horizontally and longitudinally disposed under the head frame and having its rear attenuated extremity between the inwardly opening mouths of the channels 25, 25, is extended through the apertured separated and forwardly and rearwardly located buffer plates *i*, *i*, the side ears or extensions 37, 37 of which laterally extend for sliding fits in the oppositely located pockets 25, 25, the forward buffer plate having the forward surfaces of its extensions 37 in contact against the permanent abutments 28, while the rearwardly located buffer plate normally rearwardly contacts by its extensions against the forward ends of the removable abutments 30, 30. The draw bar spring *k* is in compression as usual between the buffer plates *i i*, and the nut *m* forms the means of engagement, as common, between the rear end or shank of the draw bar and the rearward one of the buffer plates. When it is desired to disconnect or take out the draw bar buffer plates,—the draw bar being disconnected therefrom, the bolts 36 are removed, the abutment blocks 30, 30 are forced slightly transversely inwardly to disengage their dowels 33 from within the socket 34, and then the abutment blocks are slid longitudinally rearwardly along, and out from the rear open ends of the pockets, thereby leaving no impediment to the rearward sliding, for removal of either or both of the buffer plates.

The draw-bar mechanism here shown and above described constitutes the subject matter of my divisional application for patent, Serial No. 476,977.

I claim:

1. A head frame consisting of a single casting integrally comprising an inwardly located pair of separated parallel, longitudinally ranging bars, and a pair of parallel longitudinally ranging bars outside of and separated from said first named pair of bars, a transverse tie member connecting all of said bars at their forward portions, an intermediately located floor sill attachment girder extending transversely across, uniting and projecting oppositely outwardly beyond all of said longitudinal bars, members transversely uniting the inner pair of the longitudinal bars at their rear portions, and members diagonally uniting the rear portion of both pairs of the longitudinal bars with each other and with the outer end portions of the girder.

2. The combination with a head frame comprising separate longitudinal bars, a pair of which are rearwardly extended beyond the main portion of the frame, of a bolster comprising a cross beam having separated apertures therethrough, through and rearwardly beyond which the rear extremities of said frame bars extend, and blocks secured on the sides of the frame bar extremities and having engagements with the cross beam of the bolster.

3. The combination with a head frame comprising separate longitudinal bars, a pair of which are rearwardly extended beyond the main portion of the frame, and constructed with rectangular apertures therein, of a bolster comprising a cross beam having separated apertures therethrough, through and rearwardly beyond which the rear extremities of said frame bars extend, and blocks secured on the sides of the frame bar extremities having rectangular projections at their sides, engaging in said apertures, and having engagements at their forward ends with the cross beam of the bolster.

Signed by me at Springfield, Mass., in presence of two subscribing witnesses.

CHARLES M. EVANS.

Witnesses:
WM. S. BELLOWS,
G. R. DRISCOLL.