

No. 775,606.

PATENTED NOV. 22, 1904.

W. H. MINER.  
DRAFT RIGGING FOR RAILWAY CARS.

APPLICATION FILED JULY 21, 1904.

NO MODEL.

Fig. 2

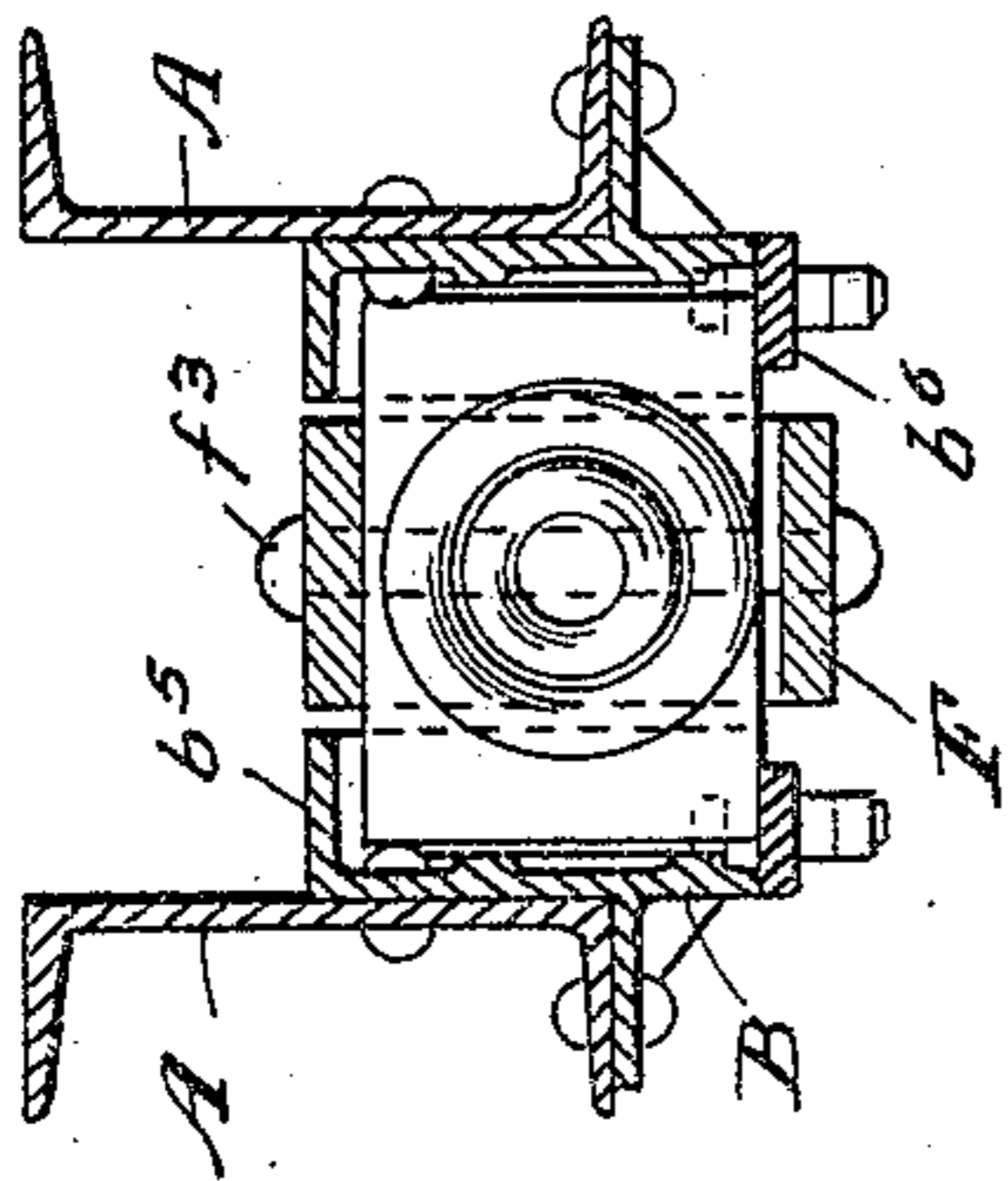


Fig. 4

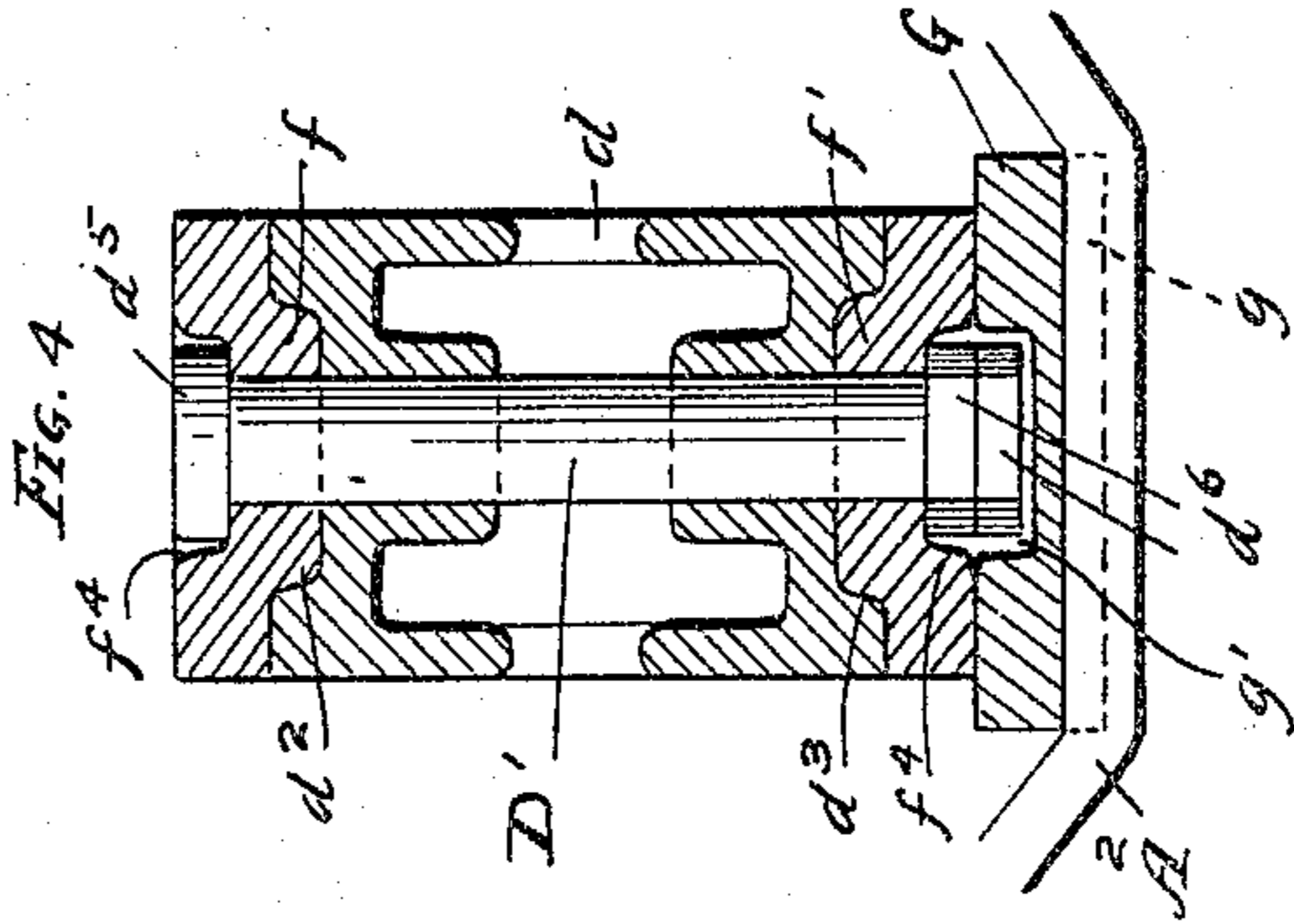


Fig. 1

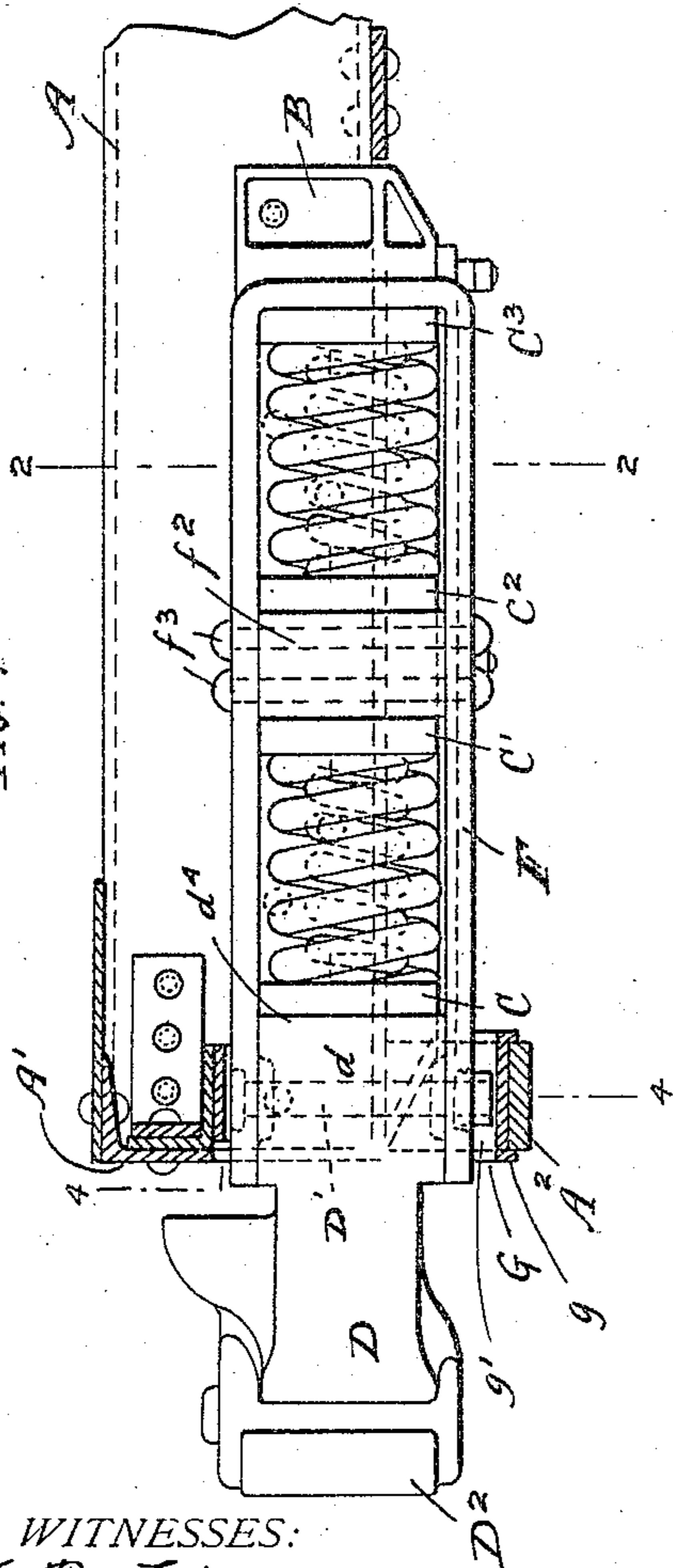
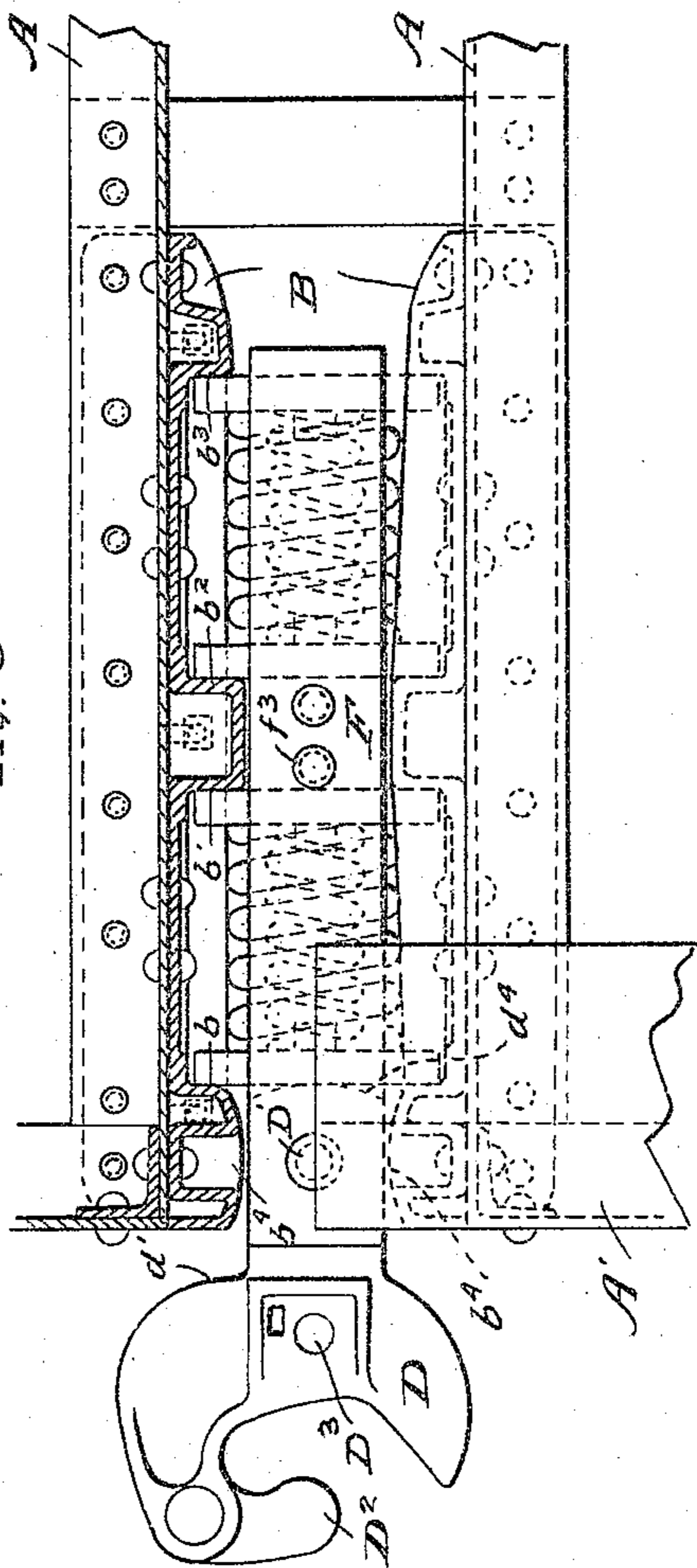


Fig. 3



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# UNITED STATES PATENT OFFICE.

WILLIAM H. MINER, OF CHICAGO, ILLINOIS, ASSIGNOR TO W. H. MINER COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

## DRAFT-RIGGING FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 775,606, dated November 22, 1904.

Application filed July 21, 1904. Serial No. 217,437. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM H. MINER, 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 Draft-Rigging for Railway-Cars, of which the following is a specification.

My invention relates to improvements in draft-rigging for railway-cars.

In railway draft-rigging heretofore in use the car-coupler has usually been furnished with a long integral draw bar or shank and with a draw strap or yoke rigidly secured to the rear end of the draw-bar, the strap or yoke embracing or surrounding the springs and followers and reciprocating between the side plates or stop-castings which are attached to the car-frame. Considerable difficulty has heretofore been experienced, especially where the draft-rigging is of the tandem type, having two or more springs arranged tandem, or one behind the other, owing to the great length of the draft-rigging as a whole interfering with the proper and necessary lateral or swinging movement of the coupler when the train passes around curves, and thus causing the couplers to be subjected to lateral or binding strains tending to uncouple the cars or to wrench or disengage the same from the car.

The object of my invention is to provide a railway draft-rigging of a strong, simple, and durable construction by which the objections or difficulties experienced may be avoided or overcome and in which the cost or expense of manufacture may be materially reduced, as well as the length of the draft appliance as a whole, and by which the draft-springs and followers may be brought near the front end of the car.

My invention consists in the means I employ to practically accomplish this object or result—that is to say, it consists, in connection with the car-frame or its center sills or draft-sills and the front or cross sill and carry-iron and the spring or springs and followers, of a pair of side plates or stop-castings having the customary stops for the followers to abut against and provided on their inner faces at

their front ends with curved or rounded guides or bearings adapted to engage and guide the longitudinal movement of the coupler draw-head and to limit its lateral or horizontal swinging movement and a draw strap or yoke projecting at its front end between the cross-sill and carry-iron and a coupler draw-head having a pivot-lug projecting from its rear face connected by an upright pivot-pin with the front end of the draw strap or yoke, the pivot-pin extending between the front sill and carry-iron and prevented thereby from being disengaged from the parts which it connects.

My invention further consists in the novel construction of parts and devices and in the novel combination of parts and devices herein shown or described.

In the accompanying drawings, forming a part of this specification, Figure 1 is a side elevation, partly in longitudinal vertical section, of a draft-rigging embodying my invention. Fig. 2 is a vertical cross-section on line 2 2 of Fig. 1. Fig. 3 is a plan view, partly in horizontal section, with some of the parts removed; and Fig. 4 is a detail cross-section on line 4 4 of Fig. 1.

In the drawings, A A represents the center sills or draft timbers or sills of a car, to which the side plates or stop-castings are secured.

A' is the front or cross sill, and A<sup>2</sup> is the carry-iron.

The side plates or stop-castings B extend to the front end of the car and are furnished with the customary stops or shoulders *b b' b<sup>2</sup> b<sup>3</sup>* for the followers C C' C<sup>2</sup> C<sup>3</sup> to abut against and also on their inner faces at their front ends with rounded or curved guides or bearings *b<sup>4</sup>*, which are adapted to engage the pivot-lug *d*, which projects from the rear face *d'* of the coupler draw-head D and which serves to guide the coupler in its longitudinal or forward-and-backward movement and also to limit the lateral or horizontal swinging movement of the draw-head on its upright pivot D', by which it is pivotally connected to the front end of the draw strap or yoke F. The draw strap or yoke F extends at its front end between the cross-sill A' and carry-iron A<sup>2</sup>, and the vertical pivot-pin D', connecting it to the

pivot-lug of the draw-head, is located between the cross-sill and carry-iron and is prevented thereby from all possibility of accidental disengagement.

5 The pivot-lug  $d$ , projecting from the rear face of the draw-head  $D$ , is provided with upper and lower countersinks  $d^2$   $d^3$ , which receive corresponding pivot-bosses  $f$   $f'$  on the inner faces of the upper and lower limbs of  
10 the draw-head  $D$ , at the front end thereof, and which enlarge the bearing or pivotal connection between the draw-strap and coupler draw-head and serve to relieve the connecting pivot-pin  $D'$  from a portion of the buffing and pulling strains to which the coupler is  
15 subjected. The pivot-lug  $d$  of the coupler draw-head is also provided with a rounded or curved rear end  $D^4$ , which bears directly against the front follower  $C$  and while permitting the draw-head to turn or swing horizontally on its pivot  $D'$  also serves to communicate a portion of the buffing strains directly to the front follower and to relieve the pivot-pin  $D'$  therefrom.

25 The draw-strap  $F$  is furnished with an abutment-block  $f^2$  at its middle portion, secured thereto by rivets  $f^3$  to bear against the two middle followers. The pivot-pin  $D'$  is preferably furnished with a head  $d^5$  and nuts  $d^6$ ,  
30 which fit in suitable countersinks  $f^4$  in the upper and lower faces of the strap or yoke  $F$ , a seat-block  $G$ , having flanges  $g$ , fitting astride the carry-iron and a slot  $g'$  extending longitudinally of the draw-bar to receive the end  
35 and nut of the pivot-pin is preferably interposed between the carry-iron and the draw strap or yoke.

The coupler is of the ordinary Master Car-Builders' type and has the customary knuckle  
40  $D^2$  pivoted to the draw-head  $D$  and lock  $D^3$  for holding the knuckle in its closed position.

The side plates or stop-castings  $B$  have an upper integral guide or flange  $b^5$  and a lower removable guide or plate  $b^6$  for the followers  
45  $C$   $C'$   $C^2$   $C^3$  to reciprocate between and to support and guide the same.

I claim—

1. In a railway draft-rigging, the combination with the center or draft sills of a car-  
50 frame, of side plates or stop-castings secured thereto and extending to the front end of the car, and provided with stops for the followers and with rounded guides or bearings on their inner faces at their front ends, tandem  
55 springs and followers, a carry-iron and cross-sill, a draw strap or yoke extending at its front end between the cross-sill and carry-iron, and a coupler draw-head having a pivot-lug pivotally connected to the front end of  
60 the draw strap or yoke between said rounded guides or bearings and said side plates or stop-castings, substantially as specified.

2. In a railway draft-rigging, the combination with the center or draft sills of a car-  
65 frame, of side plates or stop-castings secured

thereto and extending to the front end of the car, and provided with stops for the followers and with rounded guides or bearings on their inner faces at their front ends, tandem springs and followers, a carry-iron and cross-sill, a  
70 draw strap or yoke extending at its front end between said cross-sill and carry-iron and a coupler draw-head having a pivot-lug connected to the front end of the draw strap or  
75 yoke, said pivot-lug and said draw strap or yoke having interengaging pivot recesses and bosses, substantially as specified.

3. In a railway draft-rigging, the combination with the center or draft sills of a car-  
80 frame, of side plates or stop-castings secured thereto and extending to the front end of the car, and provided with stops for the followers and with rounded guides or bearings on their inner faces at their front ends, tandem springs  
85 and followers, a carry-iron and cross-sill, a draw strap or yoke extending at its front end between said cross-sill and carry-iron, and a coupler draw-head having a pivot-lug pivotally connected to the front end of said draw  
90 strap or yoke, the pivot-pin connecting said draw-head and draw-strap being between said cross-sill and carry-iron and prevented thereby from removal, substantially as specified.

4. In a railway draft-rigging, the combination with the center or draft sills of a car-  
95 frame, of side plates or stop-castings secured thereto and extending to the front end of the car, and provided with stops for the followers and with rounded guides or bearings on their inner faces at their front ends, tandem springs  
100 and followers, a carry-iron and cross-sills, a draw strap or yoke extending at its front end between said cross-sill and carry-iron, a coupler draw-head having a pivot-lug pivotally connected to the front end of said draw strap  
105 or yoke, and pivot-plug having a rounded rear end bearing directly against the front follower, substantially as specified.

5. In a draft-rigging, the combination with a draw-head, of a draw-strap, and a pivot-pin  
110 connecting the same, at the front end of the draw-strap between the carry-iron and front sill of the car, substantially as specified.

6. In a draft-rigging, the combination with a draw-strap and the front follower, of a draw-  
115 head having a pivot-lug furnished with a rounded rear end bearing directly against the front follower, and a pivot-pin extending through the draw-strap at the front end thereof, and said pivot-lug, substantially as specified.  
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7. In a draft-rigging, the combination with side plates or stop-castings extending to the front end of the car, springs and followers, of  
125 a draw-strap extending to the front end of the side plates or stop-castings, and a coupler draw-head having a pivot-lug pivotally connected to the front end of the draw-strap, substantially as specified.

8. In a draft-rigging, the combination with  
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side plates or stop-castings extending to the front end of the car, springs and followers, of a draw-strap extending to the front end of the side plates or stop-castings, and a coupler  
5 draw-head having a pivot-lug pivotally connected to the front end of the draw-strap, said pivot-lug and draw-strap having interengaging pivot recesses and bosses, substantially as specified.

10 9. In a draft-rigging, the combination with side plates or stop-castings extending to the front end of the car, springs and followers, of a draw-strap extending to the front end of the side plates or stop-castings, and a coupler  
15 draw-head having a pivot-lug pivotally connected to the front end of the draw-strap, said pivot-lug having a rounded rear end bearing

against the front follower, substantially as specified.

10. In a draft-rigging, the combination with 20 side plates or stop-castings extending to the front end of the car, springs and followers, of a draw-strap extending to the front end of the side plates or stop-castings, and a coupler draw-head having a pivot-lug pivotally connected 25 to the front end of the draw-strap, a carry-iron and a slotted saddle-piece interposed between the carry-iron and the draw-strap, substantially as specified.

WILLIAM H. MINER.

Witnesses:

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