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DRAFT RIGGING FOR CARS AND SUPPORTING STRUCTURE THEREFOR.

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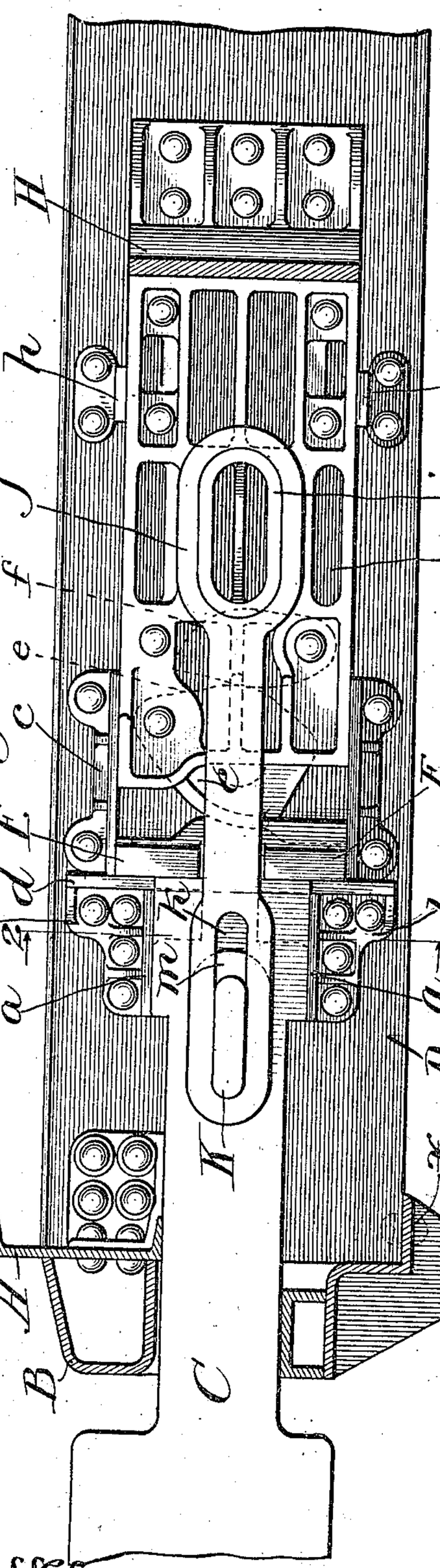
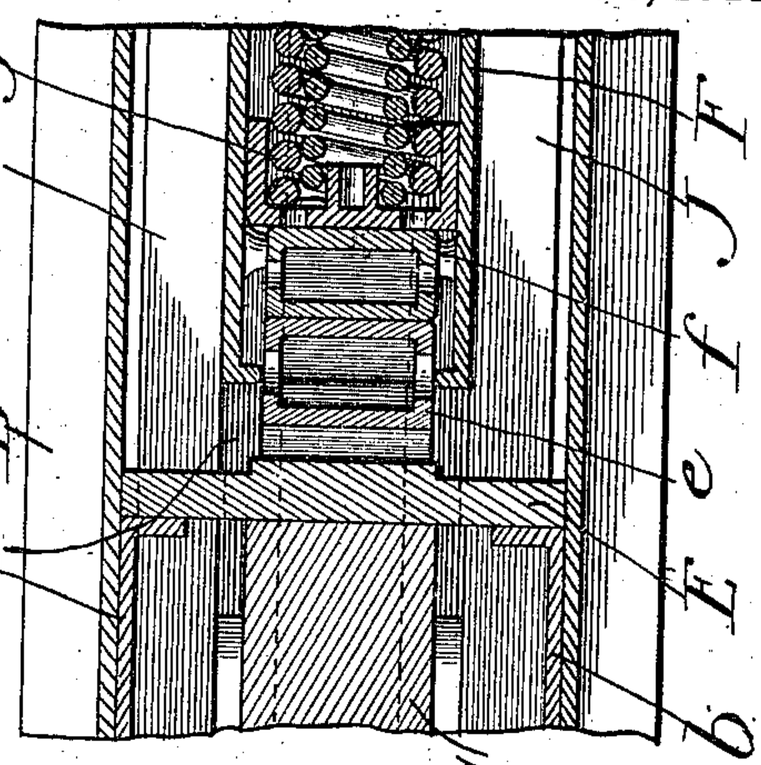
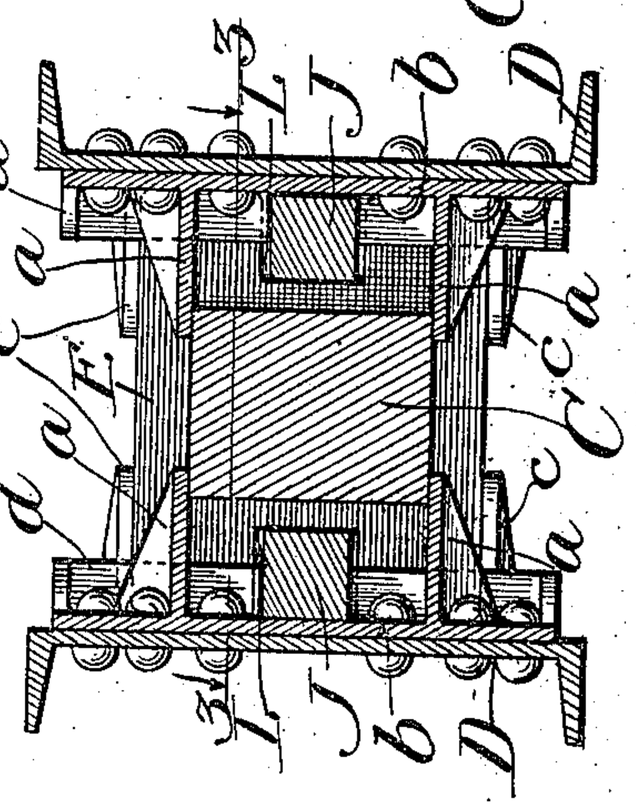
995,996.

Patented June 20, 1911.







Witnesses
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DRAFT-RIGGING FOR CARS AND SUPPORTING STRUCTURE THEREFOR.

995,996. Specification of Letters Patent. **Patented June 20, 1911.**

Application filed June 6, 1908. Serial No. 437,194.

To all whom it may concern:

Be it known that I, WILLIAM P. BETTENDORF, a citizen of the United States, and a resident of Davenport, in the county of Scott and State of Iowa, have invented certain new and useful Improvements in Draft-Rigging for Cars and Supporting Structures Therefor, of which the following is a clear, full, and exact construction.

My invention relates to draft-rigging for cars and the supporting structure therefor.

The object of my invention is to avoid the use of bolts and rivets in the assembling of the several movable parts of a draft-rigging for cars, and to allow a limited pushing movement of the draw-bar, independent of the means employed to connect the draw-bar to the spring containing member. This I accomplish by the means hereinafter fully described and as particularly pointed out in the claims.

In the drawings:—Figure 1 is a longitudinal section through the underframe of a car showing, in side elevation, my improvements applied thereto. Fig. 2 is a transverse vertical section through my invention and the center-sills of the car, taken on dotted lines 2, 2, Fig. 1. Fig. 3 is a transverse horizontal section through a portion of the same, taken on dotted lines 3, 3, Fig. 2.

Referring to the drawings, A represents the channel-beam end-sill of the underframe of a car, which, at its center of length, has secured thereto a rectangular frame or bumping-block B, part of which depends below the end-sill, and has an opening therein back through which the draw-bar C extends. D, D, represent the end portions of the parallel I-beam center-sills or draft sills of said underframe, the upper portion of the ends of which are secured to the end-sill by suitable castings, and the lower flanges of said ends are seated on and riveted to a shelf *x*, made by flanging rearwardly the lower horizontal part of frame B below the draw-bar opening. The draw-bar extends back between these center-sills or draft sills a suitable distance, and, preferably, has its rear end increased in depth, to facilitate its engaging and sliding between lugs *a*, *a*, projecting from plates *b*, *b*, secured to the web of said center or draft-sills on each side of the draw-bar. The rear extremity of the draw-bar bears directly against a rectangular shaped buffer-plate E, the distance between the vertical edges of which is but slightly less than that between the webs of the draft-sills, and the depth of which is greater than that of the engaging end of the draw-bar. This buffer-plate is guided in its movements by the guide-ways *c*, *c*, which latter consists of a plate riveted or otherwise secured to the web of the center or draft-sills, and provided with upper and lower inwardly projecting horizontal flanges, between which the side portions of the buffer-plate are located and slide. When at the limit of its forward movement the side portions of the said buffer-plate bears against vertical flanges, *d*, *d*, projecting transversely inward from the rear edges of plates *b*, and these flanges transmit the pulling strain of the draw-bar to the center or draft-sills. The buffer-plate is kept pressing forward against said flanges *d*, *d*, by means of cam-blocks *e*, *f*, that are journaled in the side-walls of the forward end of the bore of a suitable spring-housing F, which latter is tubular, and is, preferably, square in cross-section, and has a follower-plate G therein, between which and the rear closed end of the housing a suitable coil-spring *g* is placed that keeps the follower-plate normally pressing forward against the rearmost cam-block *f*.

The rear closed end of housing F, normally bears against a cross-bar or bridge H, the ends of which are bent or flanged away from said housing and riveted or otherwise secured to the webs of the center-sill or draft-sills. The vertical displacement of the rear end of the housing is prevented, and the movement of this portion of the same is directed by lugs *h*, which have plates that are riveted to the center-sills on either side of the housing. About midway its length the housing is provided with laterally projecting trunnions *j* upon which the rear ends of the links J are secured. The opening in the rear end of these links J that fits over the trunnion *j*, is such, that the links will be rigidly fastened thereto and have no lost motion. These links project longitudinally forward to and opposite each side of the rear end of the draw-bar, and their forward ends are provided with a longitudinally elongated opening *k*, which is adapted to fit over the projecting ends of a transverse key or bar K that is seated in and extends trans-

versely through the draw-bar and through the bosses *m* surrounding the mouths of the opening in which it is seated, and its ends project beyond the sides of the draw-bar. Between the openings in the ends thereof, the bodies of these links consist of a solid bar, which is, preferably, rectangular in cross-section, and extends through recesses L made in the vertical side edges of the buffer-plate E, and through suitable recesses made in the vertical flanges *d*, *d*, against which said buffer-plate normally presses.

In operation, when the car-coupler is subjected to a pulling strain, the housing, through the medium of the links, is drawn forward, and the springs *g* are compressed against the follower-plate and impart the pulling strain through the same and cam-blocks *e* and *f* to the buffer-block, and through the latter to the flanges *d* and the center-sill. When the car-coupler is subjected to a pushing strain the draw-bar will push the buffer-plate rearwardly, which latter, through the medium of said cam-blocks pushes the follower-plate to the rear, and compresses the spring against the rear of the housing, which latter imparts its strain to cross-bar H, by which the strain is imparted to the center or draft sills. By making the opening *k* in the forward end of the links longer than the width of the key, the ends of the key can move rearwardly in said openings a limited distance without affecting said links, but when the said key engages the rear ends of the opening *k*, the pushing strain of the draw-bar will be imparted directly through said links to the housing, and from thence through the bar H to the center or draft-sills. The distance which the draw-bar can move to the rear independently of the links, represents about the extent of the compressibility of the springs *j*, so that the direct blow or concussion of the bumping cars is seldom imparted direct to the underframe.

What I claim as new is:—

1. The combination with an underframe for a car comprising an end-sill and two parallel draft-sills, of a car coupling the draw-bar of which extends longitudinally between said draft-sills, a buffer-block engaged by the rear extremity of the same, springs that impart a forward pressure to said buffer-block, a housing in which said springs are contained, means for connecting the sides of the housing to said draw-bar, and devices for conveying the pushing strain of said housing and the pulling strain of the buffer-block to the draft-sills.

2. The combination with an underframe for a car comprising an end-sill and two parallel draft-sills, of a car-coupling the draw-bar of which extends longitudinally between said draft-sills and has lateral projections on its rear end, a buffer-block engaged by the rear extremity of the same, springs that impart a forward pressure to said buffer-block, a housing in which said springs are contained having laterally projecting trunnions, links having openings in their ends that are removably fitted upon said lateral projections, and said trunnions, for connecting the sides of the housing to said draw-bar, and devices for conveying the pushing strain of said housing and the pulling strain of the buffer-block to the draft-sills.

In testimony whereof I have hereunto set my hand and seal this 7th day of April, A. D. 1908.

WILLIAM P. BETTENDORF. [L. S.]

Witnesses:
G. S. THOMPSON,
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