No. 701,661. Patented June 3, 1902.

C. WRIGHT.

TRIPLE SPRING DRAW GEAR.

(Application filed Nov. 2, 1901.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

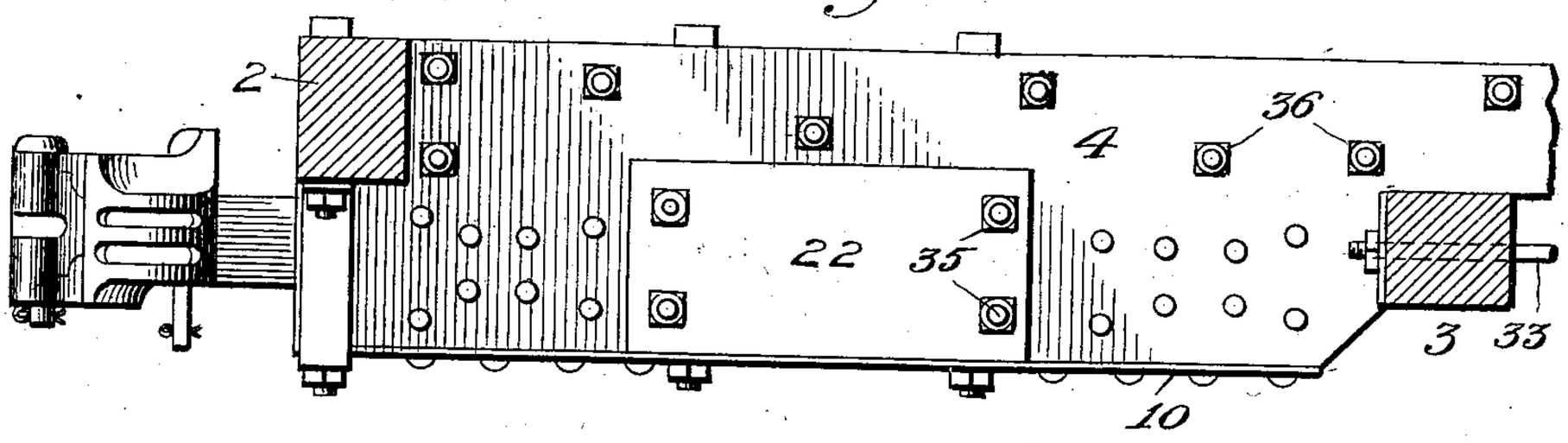

Fig. 2.

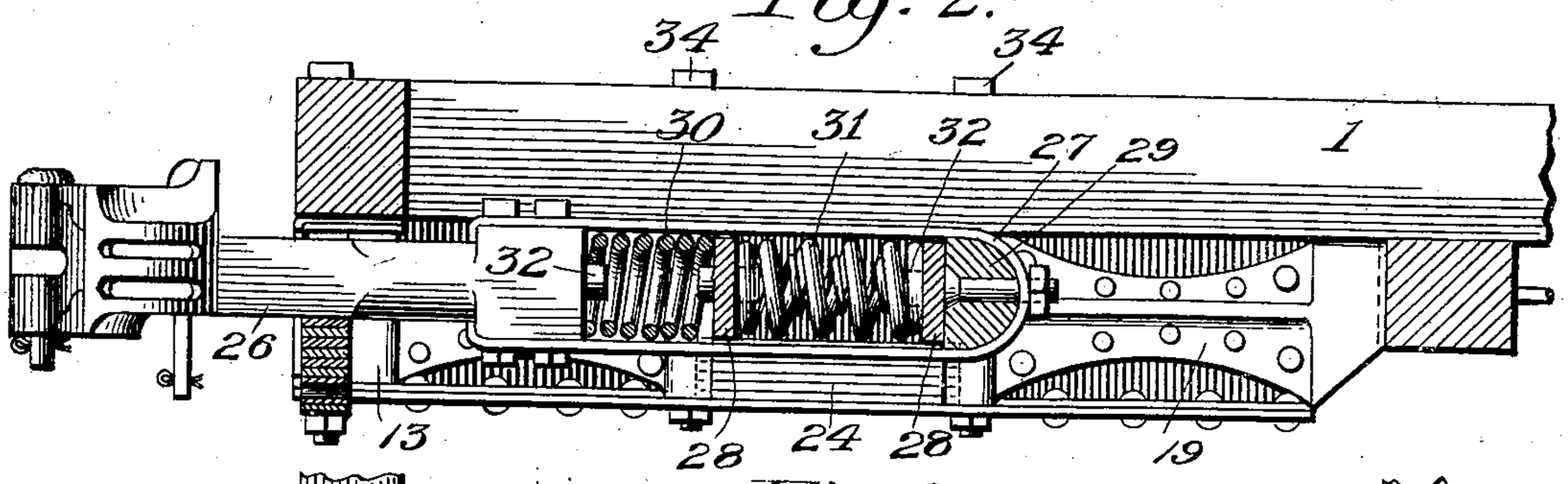

Fig. 3.

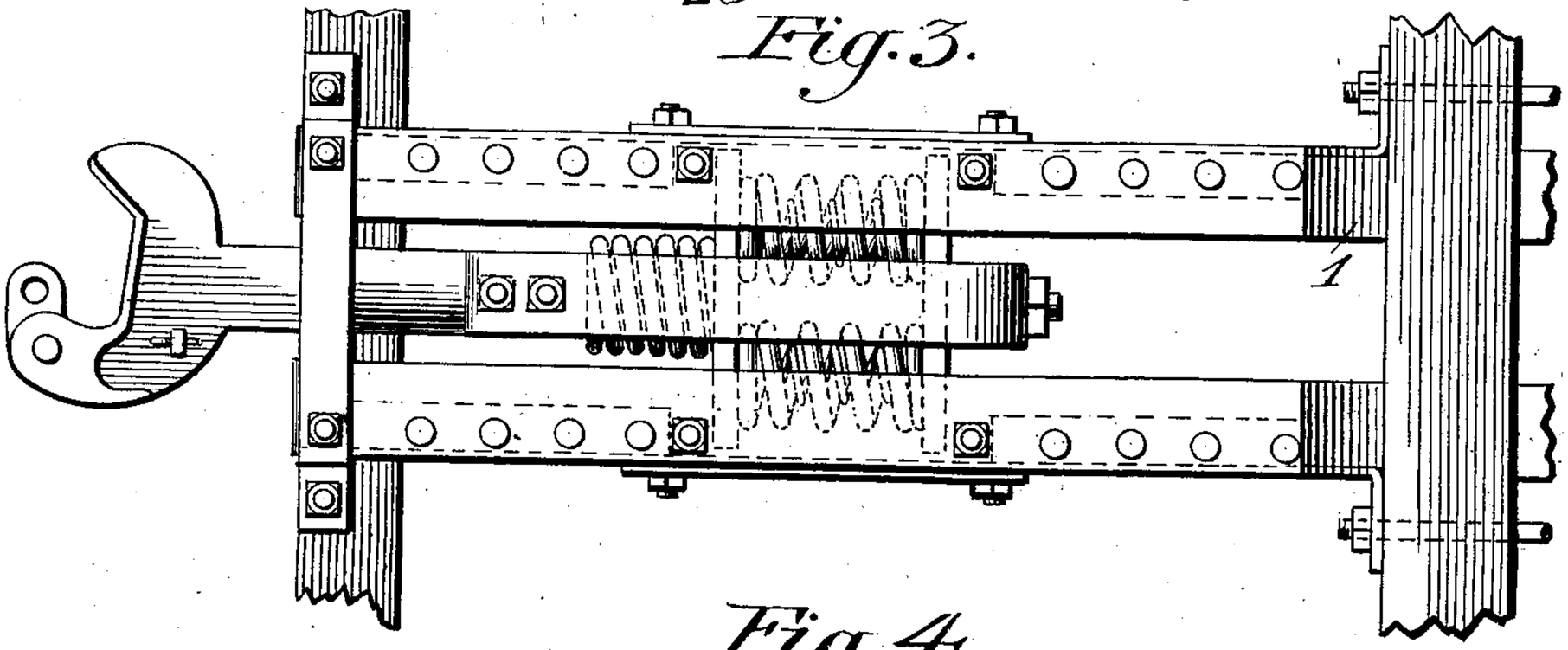

Fig. 4.

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Fig. 5.

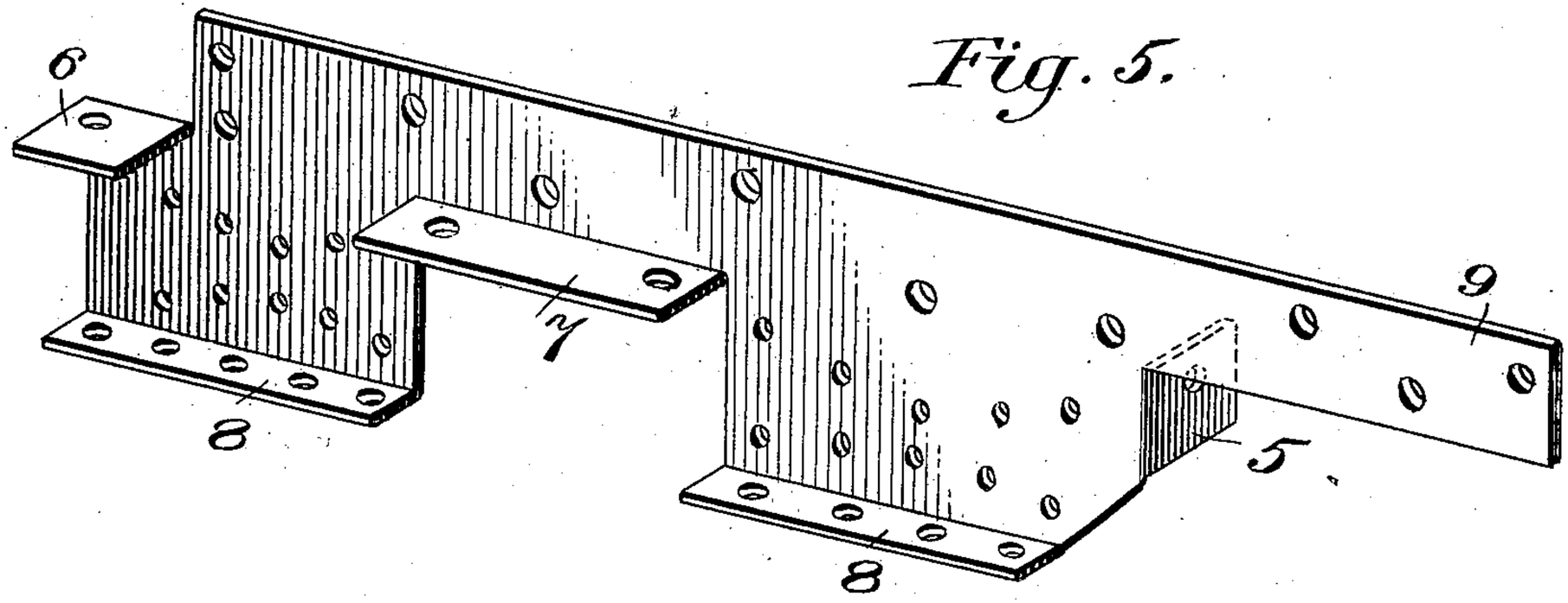


Fig. 6.

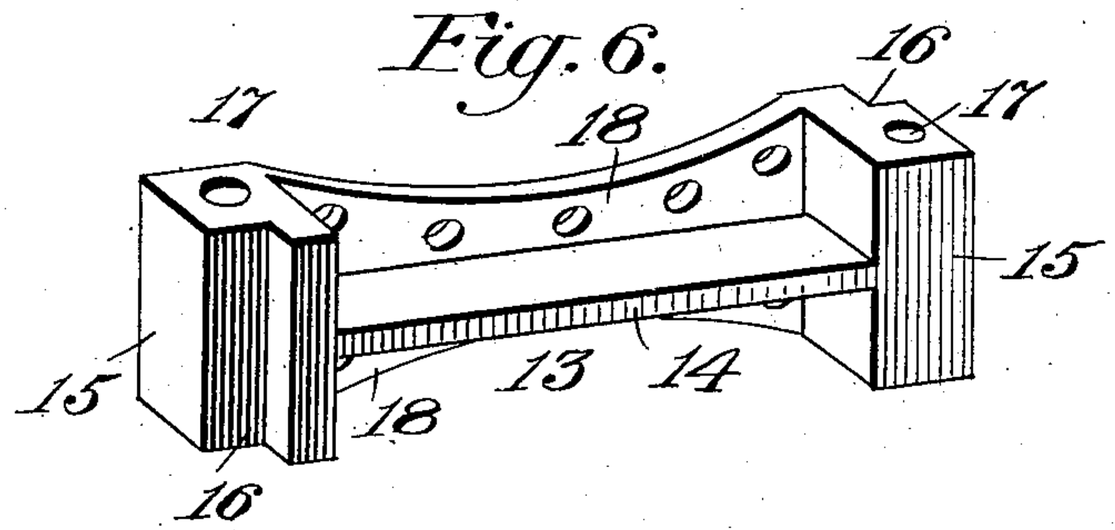
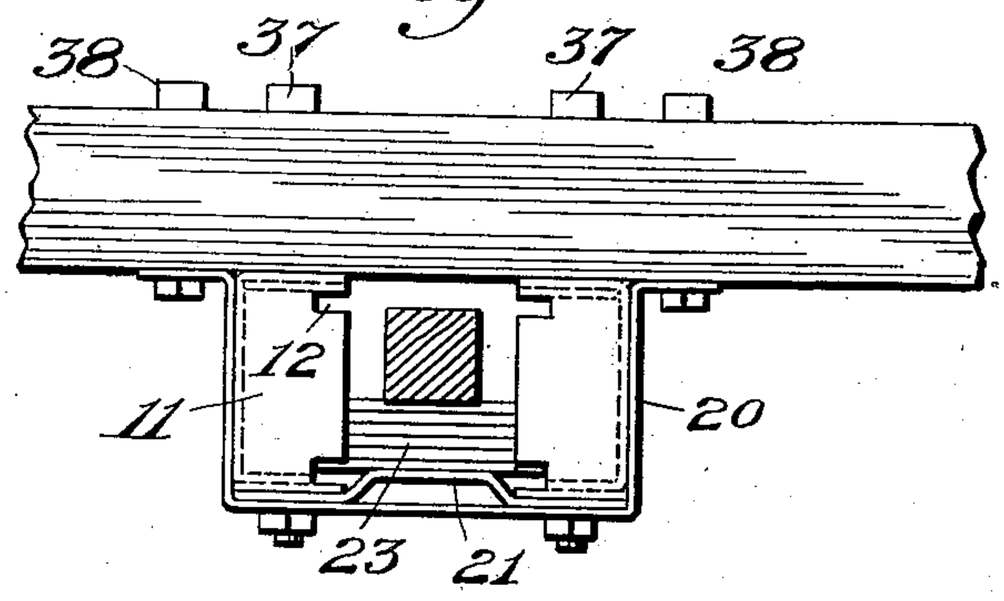


Fig. 7.



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UNITED STATES PATENT OFFICE.

CHARLES WRIGHT, OF EVERSON, PENNSYLVANIA.

TRIPLE-SPRING DRAW-GEAR.

SPECIFICATION forming part of Letters Patent No. 701,661, dated June 3, 1902.

Application filed November 2, 1901. Serial No. 80,843. (No model.)

To all whom it may concern:

Be it known that I, CHARLES WRIGHT, a citizen of the United States, residing at Everson, in the county of Fayette and State of Pennsylvania, have invented new and useful Improvements in Triple-Spring Draw-Gear, of which the following is a specification.

The objects of my invention are the provision of a draw-gear which shall have ample spring capacity for withstanding the violent shocks to which heavy cars are subjected in buffing and towing, which shall be provided with means for adjusting the coupler and spring mechanism in a vertical plane relative to the car-body, so that the coupler-head and springs will always occupy the proper height in a horizontal plane above the track, which shall embrace as constituent parts thereof metallic draft-plates adapted for attachment to the central stringers and possessing ample strength to resist all the strains of the most severe service, and which withal shall possess other desirable features and characteristics constituting the same a perfect instrumentality for performing all the requisite functions.

With these ends in view my invention consists in certain novelties in construction and combinations and arrangements of parts hereinafter set forth and claimed.

The accompanying drawings illustrate an example of the physical embodiment of my invention constructed according to the best mode I have so far devised for the practical application of the principle.

Figure 1 is a view of the gear in elevation. Fig. 2 is a longitudinal section taken between the stringers and one side of the coupler-shank. Fig. 3 is a bottom plan view. Fig. 4 is a perspective of a shim. Fig. 5 is a perspective view of a draft-plate. Fig. 6 is a perspective view of a front follower-casting. Fig. 7 is a front end view of Fig. 1.

Referring to the several figures, the numeral 1 designates the central stringers; 2, the end sill; 3, the body-bolster; 4, the metallic draft-plates; 5, the bolster attachments, each bent outwardly at right angles to the plate; 6, the end-sill attachments, each bent outwardly and at right angles to the inner face of the plate; 7, the stringer-flanges; 8, the stay-plate flanges; 9, the free ends of the plates; 10, the stay-plates; 11, the U-shaped ends of the stay-plates; 12, notches in the edges of the stay-plates each side of the coupler-shank; 13, the front follower-castings; 14, strengthening-ribs of the castings; 15, the enlarged ends of the castings; 16, angular seats for the ends of the shims; 17, holes for bolts; 18, flanges for rivets; 19, the rear follower-castings, constructed substantially the same as the front follower-castings, except that bolt-holes are provided at one end only; 20, the U-shaped carry-iron; 21, the bent carry-iron; 22, the side plates, each of which normally covers an opening through which the shims and springs can be removed and replaced; 23, the front shims; 24, the follower-shims; 25, the narrow ends of the shims; 26, the coupler-shank; 27, the spring-yoke; 28, the two followers; 29, the rear follower-casting; 30, the front spring; 31, the two rear springs; 32, the guides for the springs; 33, the strain-rods passed through the attachments 5 and body-bolster; 34, the bolts which secure the draft-plates to the stringers, the said bolts passing through the stringers, the stringer-flanges 7, the follower-castings, and the stay-plates; 35, the side-plate bolts, which pass through the follower-castings; 36, the bolts which secure the draft-plates to the external sides of the stringers; 37, the end-sill bolts, which pass through the end sill, the end of the stay-plates, the attachments 6, the follower-castings, and the carry-irons, and 38 represents the carry-iron bolts, which secure to the sill the U-shaped carry-irons.

It will be observed that the draft-plates are each of an integral piece of plate-steel cut to shape and with portions thereof bent to form means for attaching the same to the stringers and to receive the stay-plate, which is riveted to the lower flanges, as shown. The follower-castings are riveted to the inner face of a plate each side of the opening for the followers. The strain-rods pass through the attachments 5, and the casting 29 is secured to the yoke 27 by a rivet or bolt.

To adjust the coupler and spring mechanism in a vertical plane, the carry-irons and plates 22 are removed and the shims arranged above or below the coupler-shank and the ends of the follower-plates, as the circumstances may require. The notches in the

stay-plates allow the facile insertion and withdrawal of the shims adjacent the coupler-shank, and the seats 16 in the follower-castings hold the shims securely in place.

From the foregoing description it becomes apparent that I have produced a draw-gear which fulfils all the conditions set forth as the objects of my invention. The construction is simple, comparatively cheap in first cost, amply strong, and the spring capacity can be adapted for the particular service.

It is obvious that in practice numerous changes may be introduced in construction and arrangement without constituting a substantial departure.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination in a draw-gear, of the metallic draft-plates secured to the perpendicular sides of the central stringers by horizontal bolts and provided with front and rear follower-castings upon their inner faces, said castings having holes through which are passed perpendicular bolts which secure the castings to the central stringers.

2. The combination with the metallic draft-plates secured to the perpendicular faces of the stringers by horizontal bolts passed through the said plates and stringers, of follower-castings having enlarged ends 15 provided with bolt-holes through which are passed perpendicular bolts which secure the castings to the central stringers.

3. The combination with the metallic draft-plates secured to the perpendicular faces of the stringers, of follower-castings, and each of said castings having a horizontal strengthening-rib and a bolt-hole through which passes perpendicular bolt 34, uniting a casting to a stringer.

4. The combination with the metallic draft-plates, of front follower-castings riveted to the faces of the plates and each casting provided with a bolt-hole at the end through which passes a bolt 37 which unites the said casting to the end sill.

5. The combination with the metallic draft-plates having lower horizontal flanges 8, of follower-castings riveted to the faces of the plates, and stay-plates secured to the lower flanges of the draft-plates by rivets; said stay-plates extending from end to end of the metallic draft-plates and beneath the openings made in the sides of the said plates.

6. The combination with the metallic draft-plates, of follower-castings, stay-plates, spring mechanism, and shims located under the coupler-shank and also under the spring mechanism.

7. The combination with the metallic draft-plates, of follower-castings; stay-plates; spring mechanism; and shims; said follower-castings being provided with seats, as 16, for the shims.

8. The combination with the metallic draft-plates, of a spring mechanism, and shims; the said draft-plates being provided with openings which are normally closed by side plates which retain the shims in position.

9. The combination with the metallic draft-plates secured to the sides of the stringers, of follower-castings; a coupler and spring mechanism; stay-plates; a carry-iron; and a plurality of shims, which shims are located beneath the spring mechanism.

10. The combination in a draw-gear, of two central stringers; an end sill; and two draft-plates provided with front and rear follower-castings; the said draft-plates being secured to the stringers by bolts which pass through the stringers, end sill, and castings; the said bolts which pass through the end sill also passing through the ends of the front follower-castings.

11. A metallic draft-plate having a bolster attachment 5 located at right angles to the face of the plate, an end-sill attachment 6 located in a horizontal plane and at right angles to the face of the plate, a stringer attachment 7, midway the ends of the plate, and stay-plate flanges 8; the said draft-plate having an opening midway of its length and a stay-plate 10 secured by rivets to the flanges 8, as set forth.

12. The combination in a draw-gear, of central stringers; draft-plates provided with follower-castings riveted to their faces; a spring mechanism; and means for raising or lowering the spring mechanism relative to the stringers, said means consisting of shims which can be removed from beneath the followers and placed above the same.

13. The combination with the draft-plates, of the front and rear follower-castings having seats 16; the stay-plates; shims resting upon the stay-plates; followers supported upon the shims; a coupler and spring mechanism; and removable plates 22 at the sides.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES WRIGHT.

Witnesses:

W. S. METZGER,

JAMES MURRAY.