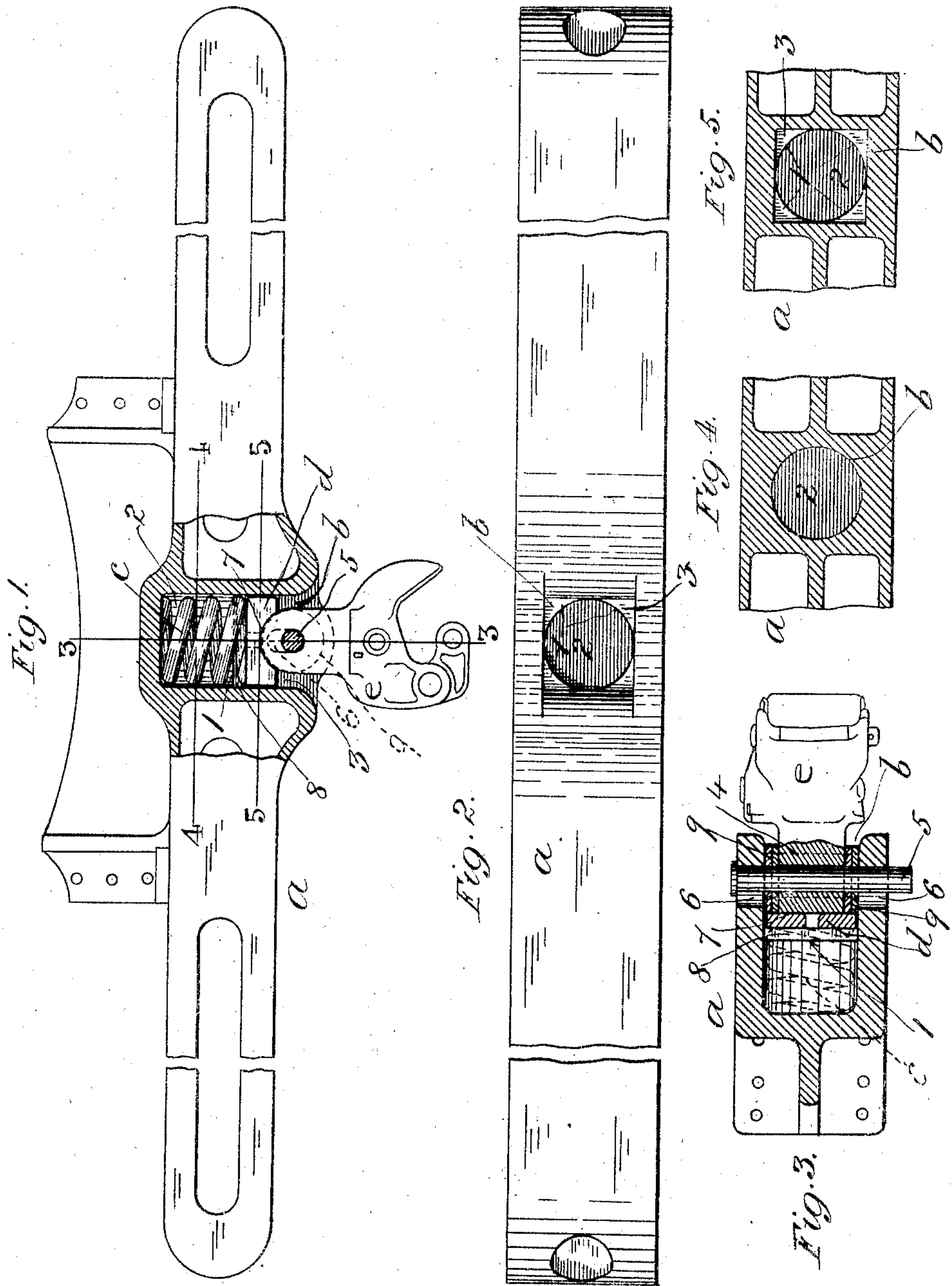


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DRAFT GEAR FOR LOCOMOTIVE ENGINES AND TENDERS.  
APPLICATION FILED MAR. 11, 1908.

909,053.

Patented Jan. 5, 1909.



WITNESSES

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# UNITED STATES PATENT OFFICE.

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## DRAFT-GEAR FOR LOCOMOTIVE ENGINES AND TENDERS.

No. 909,053.

Specification of Letters Patent.

Patented Jan. 5, 1909.

Application filed March 11, 1908. Serial No. 420,518.

*To all whom it may concern:*

Be it known that we, WILLIAM BAWDEN and ALBERT R. THOMAS, citizens of the United States, residing at St. Louis, in the State of Missouri, have invented a new and useful Improvement in Draft-Gear for Locomotive Engines and Tenders, of which the following is a specification.

Our invention relates to that class of draft-gear for a locomotive engine or tender in which the coupler is combined with a spring (or springs as the case may be) and follower-plates having their housing in, or attached to the pilot beam or end sill, and has for its object to simplify construction by reducing the number of parts, and to provide a strong, compact, and durable draft-gear.

The invention consists in features of novelty as hereinafter described and claimed, reference being had to the accompanying drawing forming part of this specification, whereon,

Figure 1, is a top plan view of our improved draft-gear as applied to a locomotive pilot-beam, broken away at its middle portion and shown thereat in horizontal section; Fig. 2, a front elevation of the beam (broken away) omitting the draft-gear; Fig. 3, a vertical transverse section through the beam, and a vertical longitudinal section through the draft-gear, on line 3, 3, in Fig. 1, and Figs. 4 and 5, vertical longitudinal sections through the beam on lines 4, 4, and 5, 5, respectively, in Fig. 1, omitting the draft-gear.

Like letters and numerals of reference denote like parts in all the figures.

*a* represents the pilot-beam or end sill of a locomotive engine or tender, composed in the present case preferably, of cast steel integral throughout and configured as shown, or otherwise as desired.

In, and extending rearwardly from the front or outer side of the beam *a* at its middle portion, is formed a pocket or recess *b* which for a suitable distance from its closed inner or rear end is preferably cylindrical, having its longitudinal center coincident with the longitudinal center of the under-frame, and thence preferably, square, or rectangular-shaped in cross section to its opening in the front of the beam *a*, thereby forming a shoulder 1 around the inside of the pocket *b* at the junction of its cylindrical and rectangular portions 2 and 3. Or both portions 2 and 3 of the pocket *b* may be

cylindrical, the rear portion 2 being diametrically smaller than the front portion 3.

Within the cylindrical portion 2 is a spiral spring (or two springs, one within the other as the case may be) which is adapted to bear at one end against the inner closed end of the pocket *b*, and at its other end against the rear side of a follower-plate *d* which corresponds in shape and is adapted to slide freely along the rectangular portion 3 of the pocket *b*, the space between the rear side of the follower-plate *d* and the shoulder 1 of the pocket *b* in the normal or free position of the spring *c*, corresponding preferably, to the play allowed for the compression of the spring *c* when "buffing"

*e* is the coupler having its shank or draw-bar 4 inserted part-way within the front portion of the pocket *b* and pivoted to the beam *a* thereat by a pin 5 which is passed vertically through the top and bottom walls of the pocket *b*, and shank 4, the holes 6 for the pin 5 through the said walls being slotted to permit of the rearward movement of the pin 5, obedient to that of the shank 4, as herein- after more particularly referred to.

The rear end of the coupler-shank 4 adjacent to its pivot pin 5, is preferably, semi-circular, or curved radially to the pin 5, and adapted to engage preferably, in a correspondingly shaped groove or recess 7 formed in the front side of the follower-plate *d* between its top and bottom edges, whereby the coupler *e* when moved about its pivot pin 5 to either side of its normal central position is rendered non self-centering.

Between the coupler-shank 4 and the top and bottom walls respectively, of the pocket *b* is preferably left a clearance space 8 in which are placed one or more shims 9 (Fig. 3) whereby the level of the coupler *e* can be adjusted when required.

In operation, assuming the spring *c*, follower-plate *d* and coupler *e* to be in their normal position, with the pin 5 of the coupler-shank 4 bearing against the front end of the slots 6 in the walls of the pocket *b*, on "buffing", the coupler-shank 4 forces the follower-plate *d* rearward and compresses the spring *c* between it and the inner closed end of the pocket *b*, until the follower-plate *d* is stopped by the shoulder 1 around the front end of the cylindrical portion 2, the pivot pin 5 of the coupler-shank 4 at the same time moving rearward from the front end of, and along the



slots 6 in the top and bottom walls of the pocket *b*. In "pulling", the spring *c*, follower-plate *d*, and coupler *e* with its shank 4, are returned to their normal position and the stress transmitted by the reengaged end of the slots 6 with the pivot pin 5, directly to the beam *a* thereat.

By the above construction a rear follower-plate for the spring *c* is dispensed with and the draft-gear simplified.

What we claim as our invention, and desire to secure by Letters Patent is:

In draft-gear of the character described, the combination of a pilot-beam, having a pocket in its front side, the said pocket having the perimeter of its rear portion smaller than that of its front portion, so as to form a shoulder at the junction of the said portions with each other, a spring within the rear por-

tion of the pocket adapted to bear at one end against the rear wall thereof, a follower-plate adapted to slide freely along the front portion of the pocket and to bear against the other end of the spring, a draw-bar having a suitable head and coupler, and adapted to engage the said plate, a pin adapted to pivot the draw-bar within the pocket to the said beam, and means for permitting a rearward movement of the said bar within the pocket, substantially as described.

In testimony whereof, we have signed our names to this specification in the presence of two subscribing witnesses.

WILLIAM BAWDEN.  
ALBERT R. THOMAS.

Witnesses:

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EDWARD W. FURRELL.