

No. 667,921.

**Patented Feb. 12, 1901.**

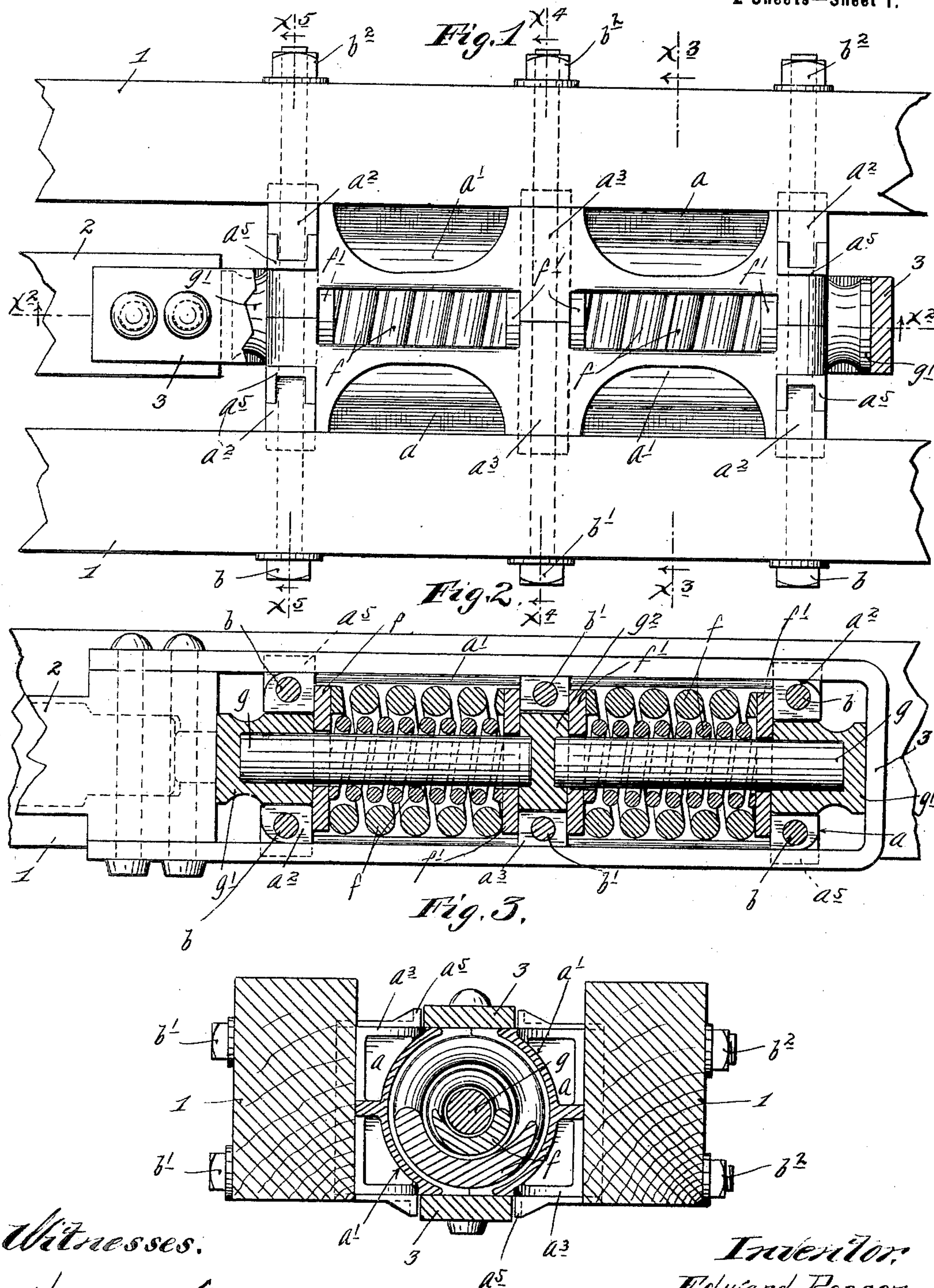
**E. POSSON.**

**DRAFT BOX FOR CARS.**

(Application filed Jan. 11, 1900.)

(No Model.)

**2 Sheets—Sheet 1.**



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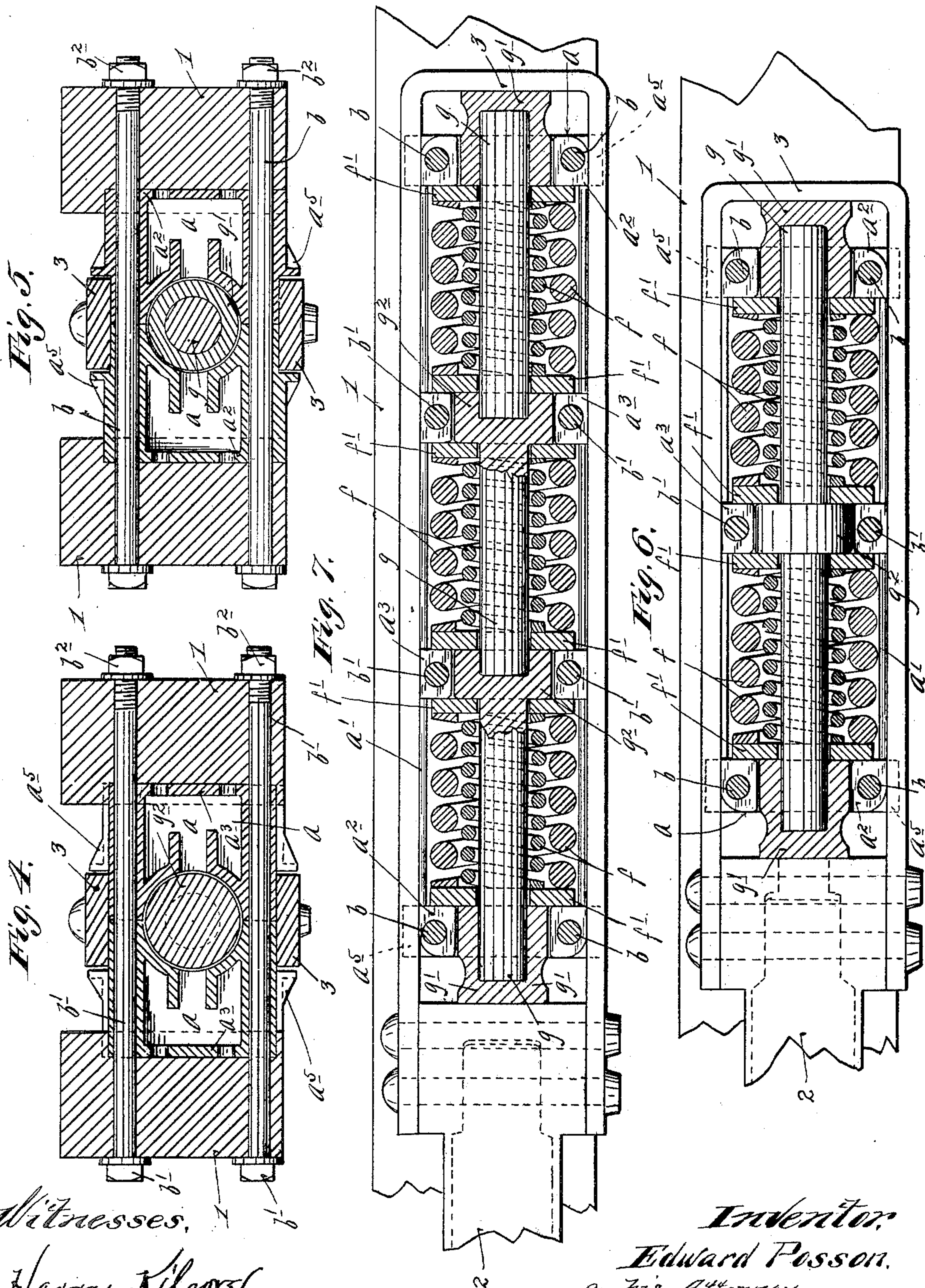
Jas F Williams



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2 Sheets—Sheet 2.



Witnesses,  
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 By his Attorney,  
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# UNITED STATES PATENT OFFICE.

EDWARD POSSON, OF ST. PAUL, MINNESOTA, ASSIGNOR OF ONE-HALF TO  
ALFRED LOVELL, OF SAME PLACE.

## DRAFT-BOX FOR CARS.

SPECIFICATION forming part of Letters Patent No. 667,921, dated February 12, 1901.

Application filed January 11, 1900. Serial No. 1,062. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD POSSON, a citizen of the United States, residing at St. Paul, (Hamline,) in the county of Ramsey and State of Minnesota, have invented certain new and useful Improvements in Draft-Boxes for Cars; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My present invention has for its object to provide an improved draft-box device for railway-cars; and to this end it consists of the novel devices and combinations of devices hereinafter described, and defined in the claims.

The invention is illustrated in the accompanying drawings, wherein like characters indicate like parts throughout the several views.

Figure 1 is a plan view illustrating one form of my improved draft-box device, showing also portions of its connections to the car-body and to the draft-bar of the coupler. Fig. 2 is a view, partly in side elevation and partly in vertical section, on the line  $x^2 x^2$  of Fig. 1. Fig. 3 is a transverse vertical section on the line  $x^3 x^3$  of Fig. 1. Fig. 4 is a transverse vertical section on the line  $x^4 x^4$  of Fig. 1. Fig. 5 is a transverse vertical section on the line  $x^5 x^5$  of Fig. 1. Fig. 6 is a view corresponding to Fig. 2, but illustrating the slightly-modified form of the internal mechanism of the draft-box device; and Fig. 7 is a view also corresponding to Fig. 2, but illustrating a modified form in which the spring devices are arranged in triple tandem instead of in double tandem, as in the other two forms illustrated in Figs. 1 to 6, inclusive.

In all of the views the numeral 1 indicates the draft-timbers of the car-body, the numeral 2 indicates the draft-bars of the couplers, and the numeral 3 indicates the so-called "strap" or "stirrup," rigidly secured at its ends to the inner end of the draft-bar 2 by means of rivets or otherwise.

The draft-box is made up of two sections  $a$ , or, in other words, the draft-box is split on a vertical plane intersecting its axis, and its main body portion  $a'$  forms a nearly complete

cylinder, which is divided into sections or pockets by transversely-extended and rectangular draft-lugs  $a^2$  and  $a^3$ , the former of which form the ends and the latter of which form the intermediate draft-lug members of the said box. In all three of the constructions illustrated there are, of course, two of the end lugs  $a^2$ ; but in the triple-tandem arrangement illustrated in Fig. 7 there are two of the intermediate draft-lugs  $a^3$ , while the boxes illustrated in the other two modifications have each but one of these intermediate draft-lugs. The draft-lugs  $a^2$  and  $a^3$  are extended outward at their sides and fit into countersunk seats in the adjacent sides of the draft members 1. Strong draft-bolts  $b$  are passed through the draft-timbers 1 and through suitable passages in the end draft-lugs  $a^2$ , while similar bolts  $b'$  are passed through the said draft members and through the draft-lugs  $a^3$ . The bolts  $b$  and  $b'$  are arranged in pairs, and they are thus passed through their respective draft-lugs, one near the upper and the other near the lower portions of the said lugs, and when they are thus applied and the nuts  $b^2$ , with which they are provided, are tightened the sections of the draft-box are rigidly held together and to the draft members.

The strap or stirrup 3 of the draft-bar 2 extends in a vertical plane and embraces the complete draft-box, and to properly guide the same the end draft-lugs  $a^2$  are provided with guide-lugs  $a^5$ , which engage the sides thereof and hold the said strap for movements centrally of the complete draft-box.

In the cylindrical pockets or seats formed between the draft-lugs of the draft-box coiled springs  $f$  are placed, and at the ends of the springs annular disk-like followers  $f'$  are placed, the same being tightly pressed against the draft-lugs  $a^2$  in the one instance and against the draft-lugs  $a^3$  in the other instance by the said springs.

The followers  $f'$  are perforated at their centers to pass compression bolts or plungers  $g$ . The end draft-lugs are perforated (each section being formed with a semicircular notch) to pass end caps or thimbles  $g'$ , and intermediate draft-lugs  $a^3$  are likewise perforated (each section being formed with a semicircular



lar notch) to pass or form seats for heavy cylindrical heads  $g^2$ . The end caps or thimbles  $g'$  are thus held between the outer members of the annular followers  $f'$  and the adjacent portion or end of the draft-bar 2 or the strap 3, as the case may be. The so-called "heads"  $g^2$  are held between the pair of intermediate followers  $f'$ , which stand immediately on the opposite sides thereof.

10 In the construction illustrated in Figs. 1 to 5, inclusive, compression-bolts  $g$  are formed without heads, and their outer ends are loosely fitted in recesses or sockets formed within the end caps or thimbles  $g'$ , while at their inner ends they fit in shallow seats formed in the faces of the head  $g^2$ .

15 In Fig. 6 the bolts or plungers  $g$  are either formed integral with or otherwise rigidly secured to the head  $g^2$ , while at their outer ends they loosely fit in seat or sockets in the caps or thimbles  $g'$ , the same as in the construction illustrated in Figs. 1 to 5, inclusive.

20 In the construction illustrated in Fig. 7, wherein the triple tandem arrangement is illustrated, two of the bolts  $g$  are shown as formed integral with the head  $g^2$ , and the free end of the intermediate bolt  $g$  loosely fits in a seat formed in the adjacent head  $g^2$ . The third bolt  $g$  is formed without heads and its inner end fits in a seat formed in the adjacent head  $g^2$ . At their outer ends the outer members of the bolts  $g$  loosely engage seats or sockets in the caps or thimbles  $g'$ , the same as in the other two constructions. With the tandem arrangement of the spring above described both bumping and draft strains are thrown simultaneously upon all of the draft-springs, and such strains are distributed on two or more of the draft-lugs of the draft-box. This construction is therefore very efficient in resisting bumping and draft strains and the possibility of breakage of the parts is reduced to a minimum.

45 The parts of the draft device may also be very readily put together and taken apart. The springs, the followers, and the compression bolts or plungers and the caps  $g'$  are placed in working positions before the sections of the draft-box are clamped together and to the draft-timbers.

50 It will be understood that my invention above described is capable of modifications other than those illustrated. For instance, it would be within the scope of my invention, but not the full equivalent of the construction illustrated, to form the so-called "end" caps or thimbles  $g'$  integral with the plunger or bolt sections  $g$ .

60 What I claim, and desire to secure by Letters Patent of the United States of America, is as follows:

1. The combination with a draft box or bracket having spring-pockets and draft-lugs in tandem arrangement, springs and followers within said pockets, a draft-bar having a yoke embracing the draft box or bracket, and

one or more compression-bolts subject to the bumping and draft strains from said draft-bar and its yoke, and imparting such strains to the followers, substantially as described. 70

2. The combination with a draft box or bracket having spring-pockets and draft-lugs, in tandem arrangement, springs and followers within said pockets, a draft-bar having a stirrup or strap embracing said draft-box, the head  $g^2$  compressed between the intermediate followers, the bolt or plunger sections  $g$  passed through said springs, and the caps or thimbles  $g'$  on the ends of said plunger-sections  $g$ , the one bearing against the stirrup 3 and the other against the draft-bar, and both engaging adjacent followers, substantially as described. 75 80

3. The combination with the two-part or split draft-box  $a$  having the draft-lugs  $a^2$  and  $a^3$ , and the spring-pockets between said draft-lugs, the springs  $f$  and annular followers  $f'$  within said spring-pockets, the head  $g^2$  between the intermediate followers  $f'$ , the plunger-sections  $g$  extending from said head  $g^2$  and through the springs  $f$ , the caps or thimbles  $g'$  on the ends of the plunger-sections  $g$ , engageable at their inner ends with the outer followers, and the draft-bar 2 provided with the stirrup or strap 3 embracing the draft-box and operating upon said caps or thimbles  $g'$ , substantially as described. 85 90 95

4. In a draft-rigging, the combination of the draft-timbers, a plurality of thrust-blocks rigidly secured between said timbers, compression-blocks sliding through and supported by said thrust-blocks, followers interposed between the compression-blocks, springs arranged between the followers and normally holding the followers against the thrust-blocks and compression-blocks, a draw-bar, means carried by the draw-bar and connecting with the outer faces of the end compression-blocks, and rigid means between the compression-blocks for causing said blocks to move with the draw-bar. 100 105 110

5. In a draft-rigging, the combination of a pair of draft-timbers, a plurality of thrust-blocks, a series of bolts extending through the thrust-blocks and both draft-timbers and preventing the lateral separation of said timbers, compression-blocks, supported in and sliding through said thrust-blocks, the outer ends of the compression-blocks extending beyond the end thrust-blocks, followers interposed between the compression-blocks, springs interposed between the followers and normally holding them against the compression-blocks and thrust-blocks, rigid means carried by the draw-bar and connecting with the projecting ends of the end compression-blocks, and rigid means between the compression-blocks to cause the said blocks to move with the draw-bar and compress the springs while moving in either direction. 115 120 125 130

6. In a draft-rigging, the combination of a pair of draft-timbers, a plurality of thrust-



blocks formed each with a groove in its upper and in its lower surface, bolts passing through each thrust-block and the draft-timbers, compression-blocks supported by and  
5 sliding through the thrust-blocks, followers between the compression-blocks, springs between the followers, a draw-bar having its rear end abutting against the forward compression-block, a yoke carried by the draw-bar and lying in the grooves in the upper and  
10 lower faces of the thrust-blocks, its rear ends abutting against the rear compression-blocks, and rigid means between the compression-blocks.  
15 7. In a draft-rigging, the combination of the draft-timbers, a plurality of thrust-blocks rigidly secured thereto, compression-blocks sliding through and supported by said thrust-blocks, rods arranged between the compression-blocks, followers on said rods, a spring  
20 between said followers, a draw-bar, and a yoke

carried thereby, and arranged substantially as described.

8. In a draft-rigging, the combination of the draft-timbers, a plurality of thrust-blocks 25 secured to said timbers, compression-blocks sliding through and supported by said thrust-blocks and having recesses formed in their vertical faces, rods arranged between and supported by said compression-blocks their 30 ends fitting in the recesses formed in said blocks, a pair of followers supported on each rod, a spring between each pair of followers, a draw-bar, and a yoke secured thereto, and arranged as described.

In testimony whereof I affix my signature 35 in presence of two witnesses.

EDWARD POSSON.

Witnesses:

HARRY KILGORE,  
F. D. MERCHANT.