No. 608,522. Patented Aug. 2, 1898.

DE WITT LOOMIS.

DRAFT RIGGING FOR RAILROAD CARS.

(Application filed Mar. 29, 1898.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

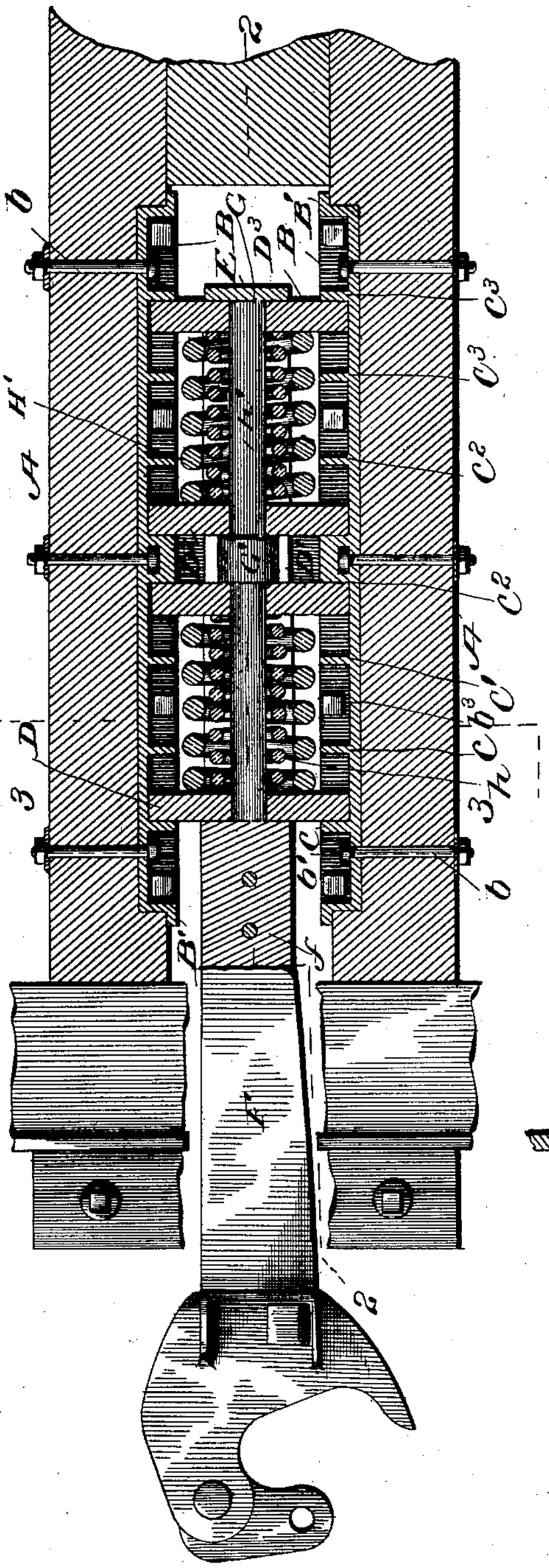

Fig. 2.

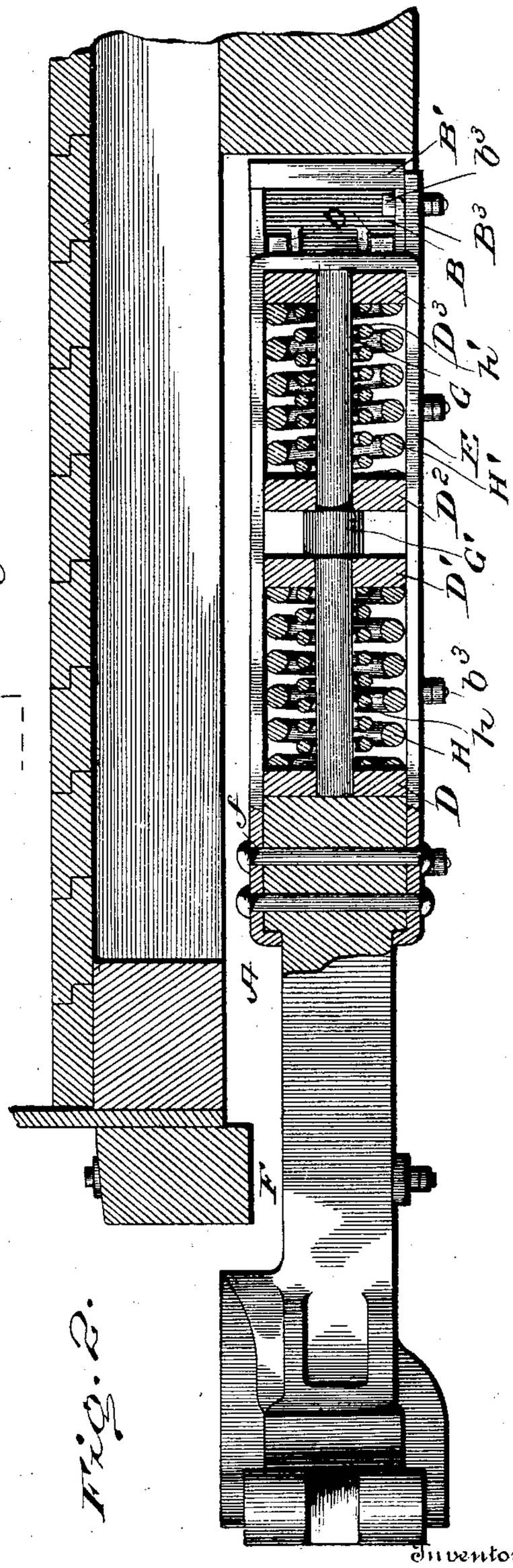

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Fig. 3.

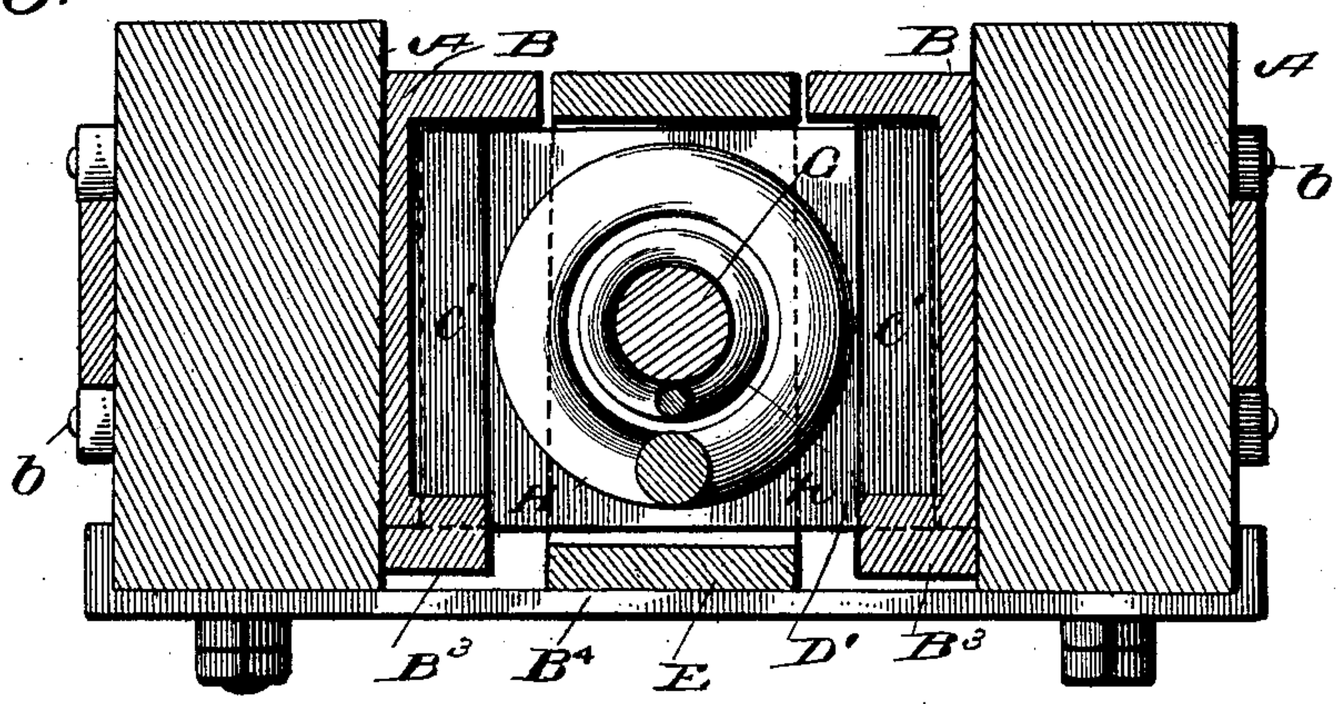

Fig. 4.

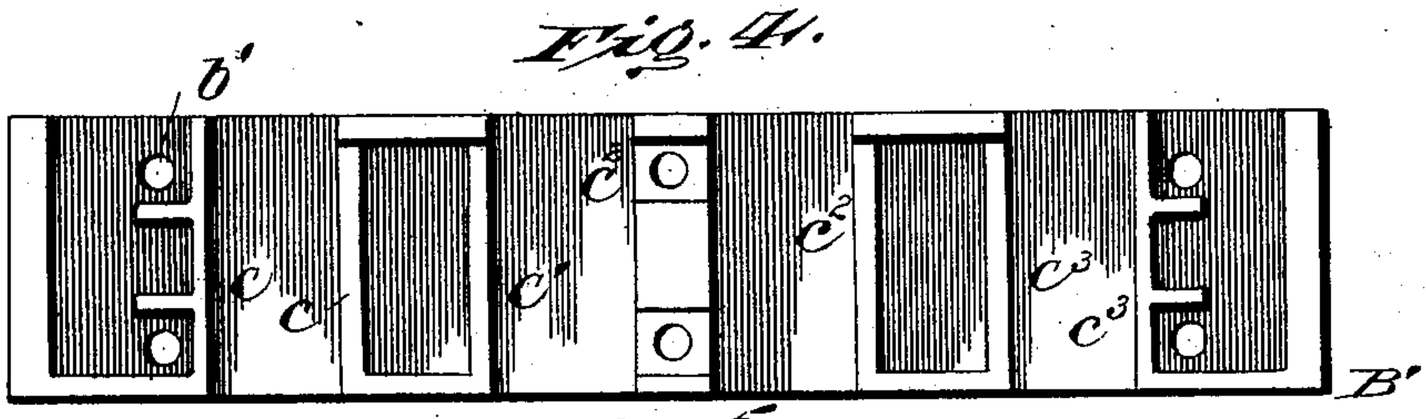

Fig. 5.

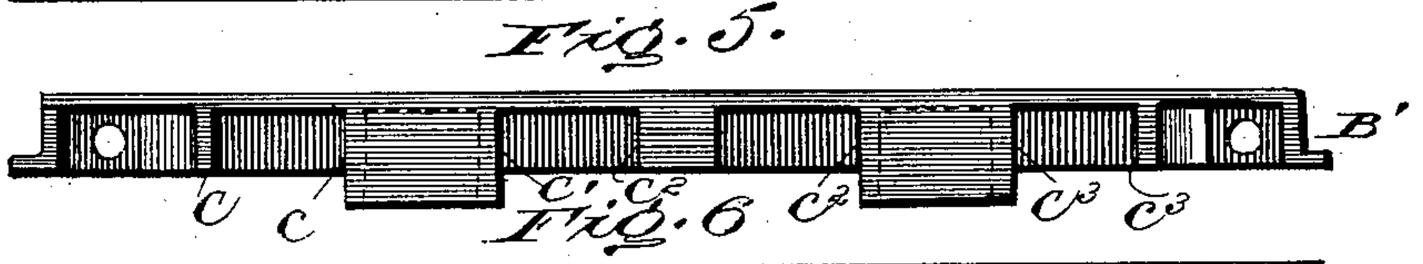

Fig. 6.

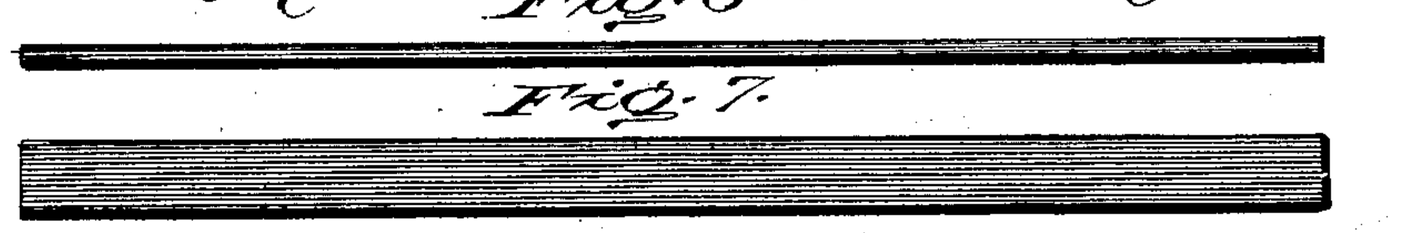

Fig. 7.

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DE WITT LOOMIS, OF DETROIT, MICHIGAN.

DRAFT-RIGGING FOR RAILROAD-CARS.

SPECIFICATION forming part of Letters Patent No. 608,522, dated August 2, 1898.

Application filed March 29, 1898. Serial No. 675,630. (No model.)

To all whom it may concern:

Be it known that I, DE WITT LOOMIS, of Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Draft-Rigging for Railroad-Cars; and I hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form part of this specification.

This invention is an improvement in draft-rigging for railroad-cars in which two or more springs may be arranged to come into operation either simultaneously or successively under either or both the pulling and buffing strain.

The object of my invention is to provide a double or tandem draft-rigging of simple construction and of few parts in which any broken part can be easily replaced and which can be easily and cheaply applied to the form of draft-rigging now in use by most railroads, most of the parts, including the springs, being those most usually found in draft-riggings commonly used to-day.

In the accompanying drawings, which form a part of this specification, and in which similar letters indicate like parts throughout the views, Figure 1 is a horizontal longitudinal section of a draft-rigging embodying my invention. Fig. 2 is a longitudinal vertical sectional view on the line 2 2 of Fig. 1. Fig. 3 is a transverse sectional view on the line 3 3, Fig. 1. Fig. 4 is a plan view of one of the cast-iron follower-guides. Fig. 5 is a top edge view thereof. Figs. 6 and 7 are top and edge views of the bottom plate of said guide.

A A, Fig. 1, are the draw-bar timbers, to which are attached side plates or follower-guides B B, made of iron and firmly secured to the timbers A by the bolts *b*. Each guide-plate, as shown, is secured by six bolts, the holes for which are shown in Fig. 4 at *b'*. The guide-plates B are set into recesses in the timbers A, as shown, but are provided with flanges B' at each end, which serve to prevent the timbers A A from breaking out at the points where the guide-plates are let into them. The guide-plates are also provided with vertical stops C *c* C' C^2 *c*^{2} C^3 *c*^{3}, as shown, and to the lower edge of each guide-plate is attached a bar B^3 by bolts *b*^{3}, upon which bar the followers D D' D^2 D^3, hereinafter described, rest. Bar B^4 holds the timbers together and prevents their spreading apart.

The follower D is placed between stops C *c* and limited in its movements thereby. Follower D' is placed between stops C' C^2. Follower D^2 is placed between stops C^2 *c*^{2}, and follower D^3 between stops C^3 *c*^{3}.

A yoke or strap E is solidly and firmly affixed to the end of the draw-bar F by the bolts *f* or in other convenient manner, and said yoke can be made of one piece, as shown in the drawings, or in other desired manner, its exact construction not being essential. This yoke, resting on bar B^4, extends between the guide-plates B B and surrounds all the followers D D' D^2 D^3, resting upon bars B^3, said followers being held in their normal position, respectively, against the stops C C' C^2 C^3 by the pressure of coil-springs interposed between followers D D' D^2 D^3, as shown.

A rod G of a length which approximates closely to the distance between the end of the draw-bar F and the inside end of the yoke E passes through all of said followers and springs supporting the latter and is provided with a collar or key G' at or near its center between followers D' D^2. The coil-springs may be of any suitable desired construction, and, as shown, two springs H *h*, one inside of the other, are interposed between followers D D', and two similar springs H' *h'* are placed between followers D^2 D^3, all said springs being strung upon and held in position by rod G. It will be noticed that said rod is not attached in any way to either the draw-bar F or the yoke E, but is supported by the followers and rests loosely in the guide-holes formed therein.

In practice in coupling cars the end of the draw-bar F will first strike against the follower D, thereby compressing the outermost springs H *h* against the follower D', which is held by stop C^2. At the same time it strikes the end of the rod G, which by reason of its collar or key G' acts upon the follower D^2 and compresses springs H' *h'* against the follower D^3, which is held by the stop *c*^{3}. In the pulling strain the action is reversed. The inner end of the yoke E strikes against the follower D^3 and compresses springs H' *h'* against the follower-plate D^2, held by stop C^2. At the same time the end of the yoke strikes the

rear end of the rod G, which by its collar or key G′ acts upon the follower D′ and compresses springs II *h* against the follower D, which is held in position by the stop C.

By shortening the rear end of rod G, which passes through follower D^3, the pairs of springs H *h* and H′ *h*′ will be compressed successively instead of simultaneously on the pulling strain, or this same object may be accomplished by slightly lengthening the rod and yoke, so that the rod projects normally through and beyond the follower D^3, and therefore the end of the yoke will strike the end of the rod in the last instance before striking the follower D^3, and thereby cause the compression of springs II *h* before the compression of springs II′ *h*′. In the first instance the end of the yoke E strikes the follower D^3 before striking the pin, thus compressing springs II′ *h*′ before compressing springs II *h*. The stops C *c*, &c., may be so placed that the followers will be stopped by them before the springs are compressed solid, if desired. In some instances instead of making rod G continuous it might be made in two pieces, the inner ends of such pieces meeting between the followers D′ D^2. Such an obvious modification will operate exactly like the construction shown in Fig. 1.

In some instances it may be desirable to so arrange the parts as to use but a single spring or compound spring in drawing or pulling the car and to use both springs in buffing. This can be accomplished very readily by removing that portion of the rod G in Fig. 1 which passes through the followers D^2 D^3, so only one spring will be brought into operation on the pulling strain, while both springs will be brought into operation at the same time on the buffing strain. Fig. 11 shows such a modification of my invention effected by substituting a short rod G^2 for rod G, Fig. 1, or by removing rod *g*′, Fig. 8. In this case the followers D D^2 D^3 might be made imperforate and the rod G^2 be passed through the springs II *h* and through an opening in the follower D′. On the draft strain springs II′ *h*′ only will be compressed and on the buffing strain both sets of springs will be compressed, the rod G^2 striking follower D^2 and compressing springs II′ *h*′ and follower D compressing springs II *h*. It is obvious that the same effect would be realized if the rod G^2 passed through the follower D and struck against the end of the draw-bar, as in Fig. 8.

Having thus described my invention, what I therefore claim as new, and desire to secure by Letters Patent thereon, is—

1. In combination with a draw-bar and yoke and four follower-plates and two groups of springs; a rod having an enlarged portion; the enlarged portion being located between the two middle follower-plates and the smaller portions thereof extending therefrom and transfixing the follower-plates and springs, said rod being disconnected from both the draw-bar and yoke, substantially as and for the purpose described.

2. The combination in a draft-rigging, of the opposite guide-plates with four followers supported thereon, said plates being provided with stops to limit the movement of each follower; the springs interposed between the first and second and third and fourth followers, and a rod arranged centrally of the springs and transfixing the followers, said rod being disconnected from both the draw-bar and yoke; with the draw-bar and the yoke attached to said draw-bar and loosely inclosing all the followers, springs and rod, substantially as and for the purpose described.

3. In a draft-rigging for cars, the combination of the guide-plates provided with a series of stops, the movable followers supported by the guide-plates and each arranged between the proper stops, the sets of springs interposed between the first and second, the third and fourth followers; and a rod transfixing the followers and upon which the springs are supported, said rod having a collar intermediate the second and third followers; with a draw-bar and a yoke attached thereto surrounding the followers, springs and rod, said rod being disconnected from both the draw-bar and yoke, substantially as described.

4. In a draft-rigging for cars, the combination of the timbers, the opposite guide-plates B let therein and provided with vertically-disposed stops C *c*, C′ C^2, c^2, C^3, c^3, and the followers D, D′, D^2, D^3, arranged between said stops, substantially as described; and the rod loosely transfixing all said followers and having a central collar or pin between the followers D′, D^2; with the draw-bar, and the yoke E attached thereto surrounding said followers, springs and rod, said rod being disconnected from both draw-bar and yoke, substantially as described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

DE WITT LOOMIS.

Witnesses:
JOHN TAYLOR NICHOLS,
WILLIAM SCOTT.