

No. 698,551.

Patented Apr. 29, 1902.

B. PATTERSON.
DRAFT RIGGING.

(Application filed Jan. 2, 1901.)

(No Model.)

2 Sheets—Sheet 1.

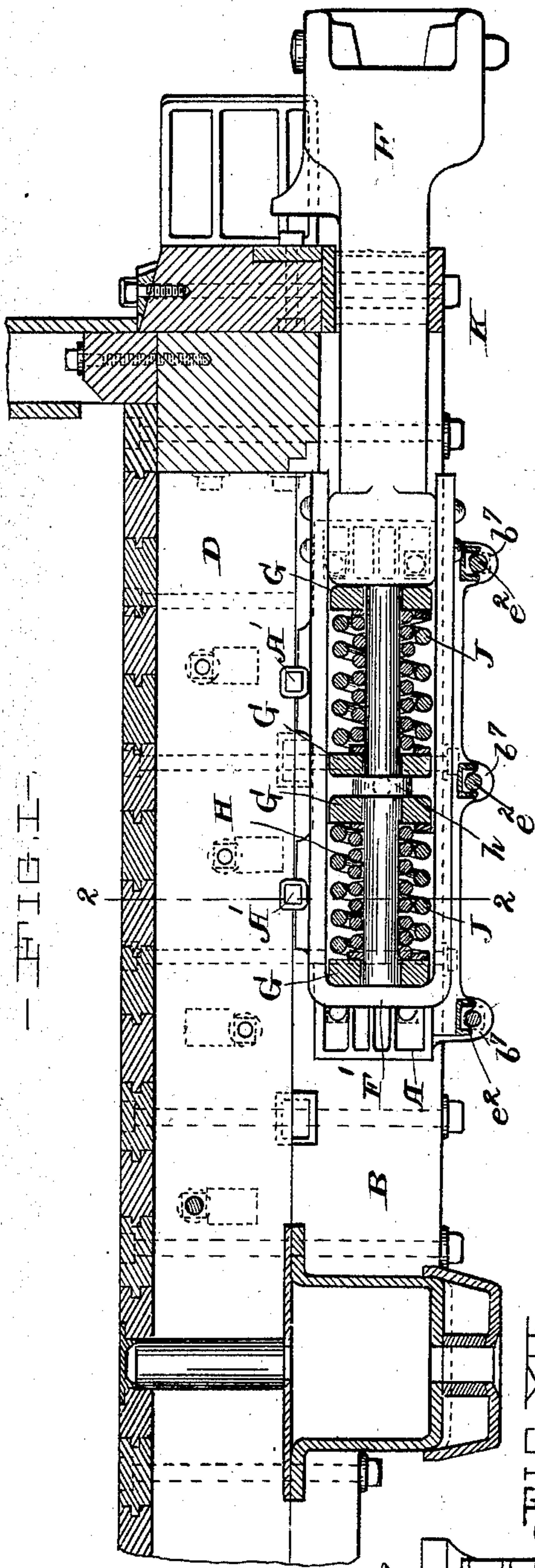


FIG. I—

FIG. II—

FIG. III—

FIG. IV—

FIG. V—

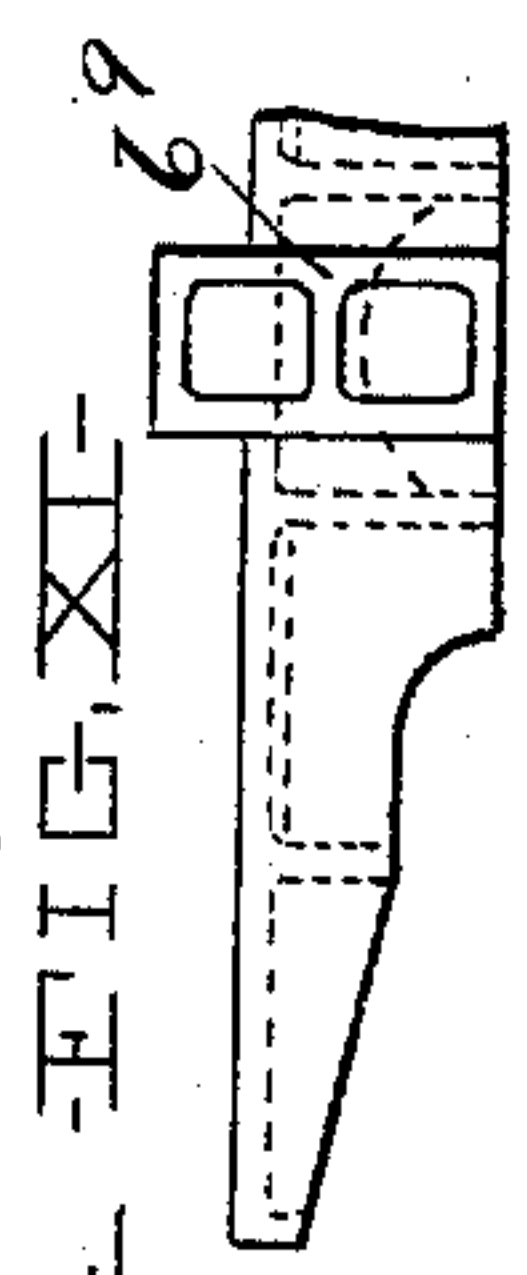
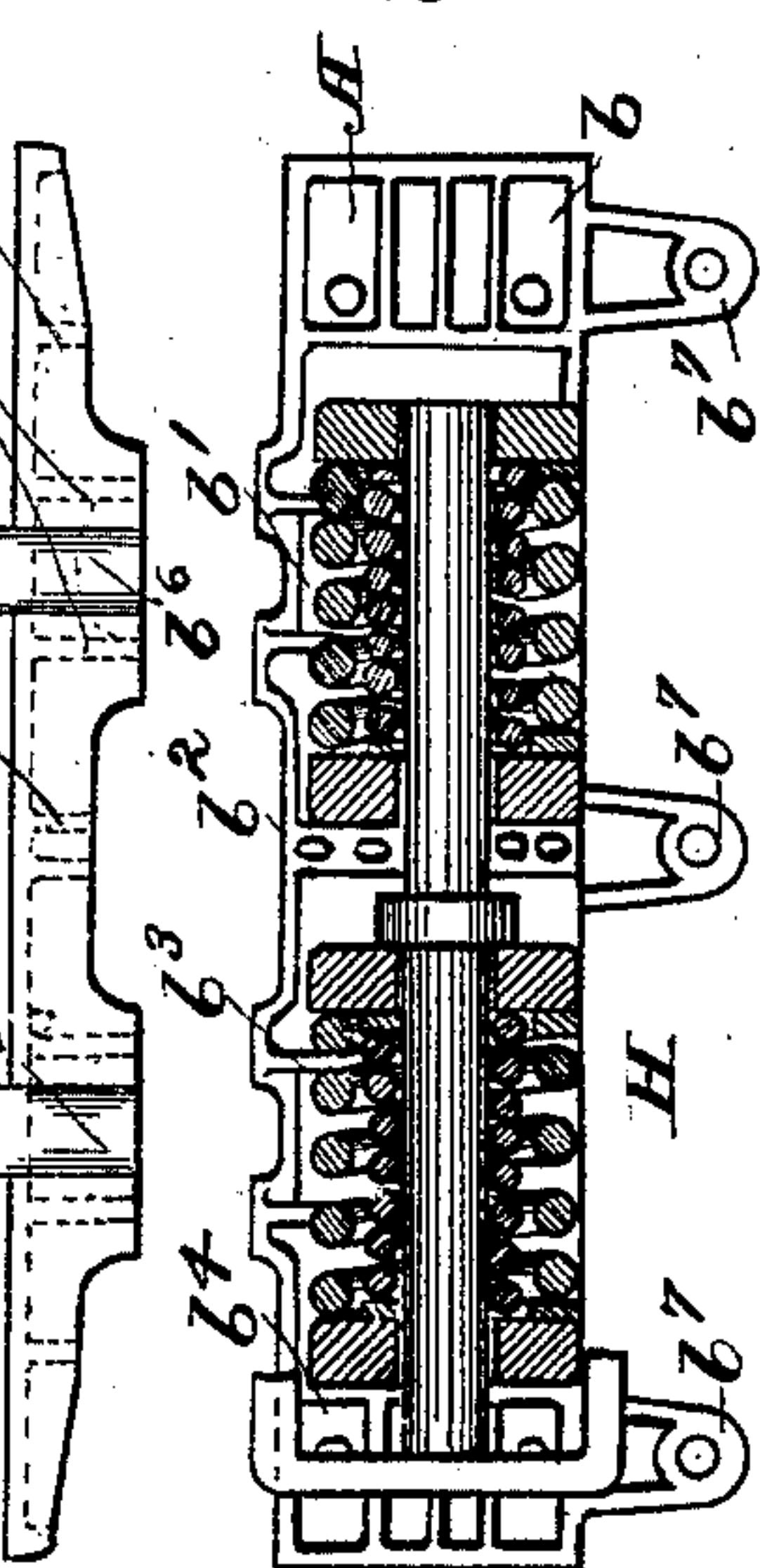
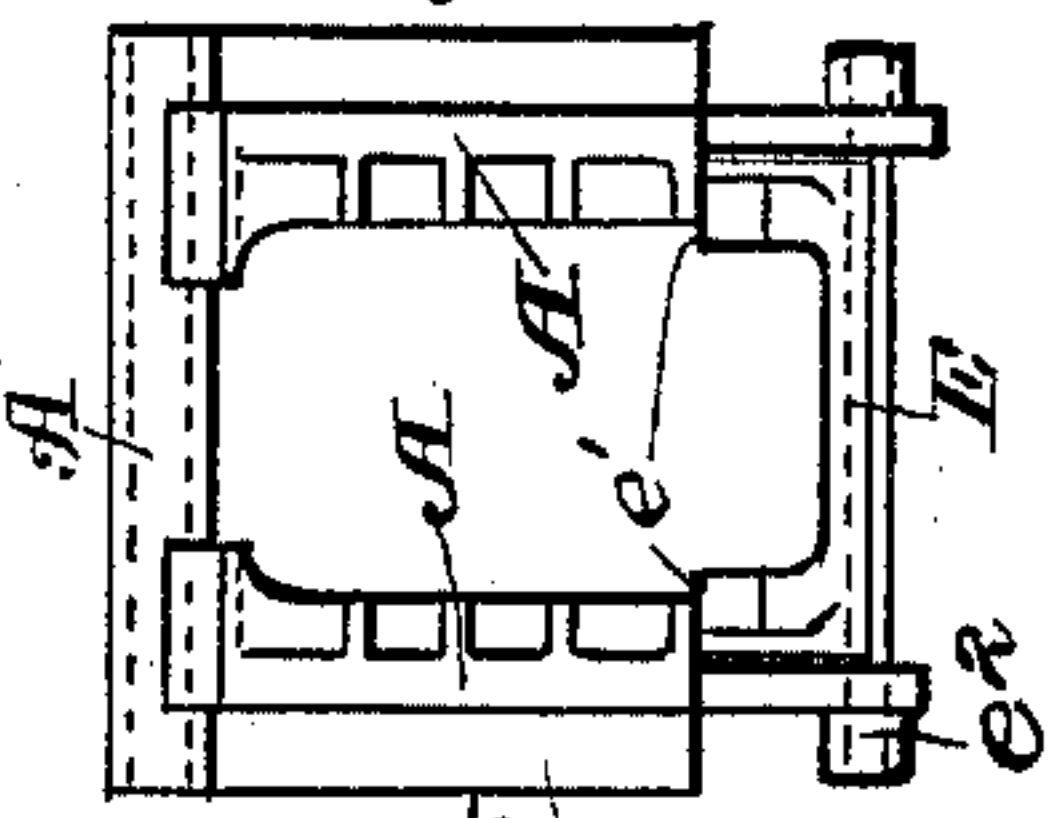
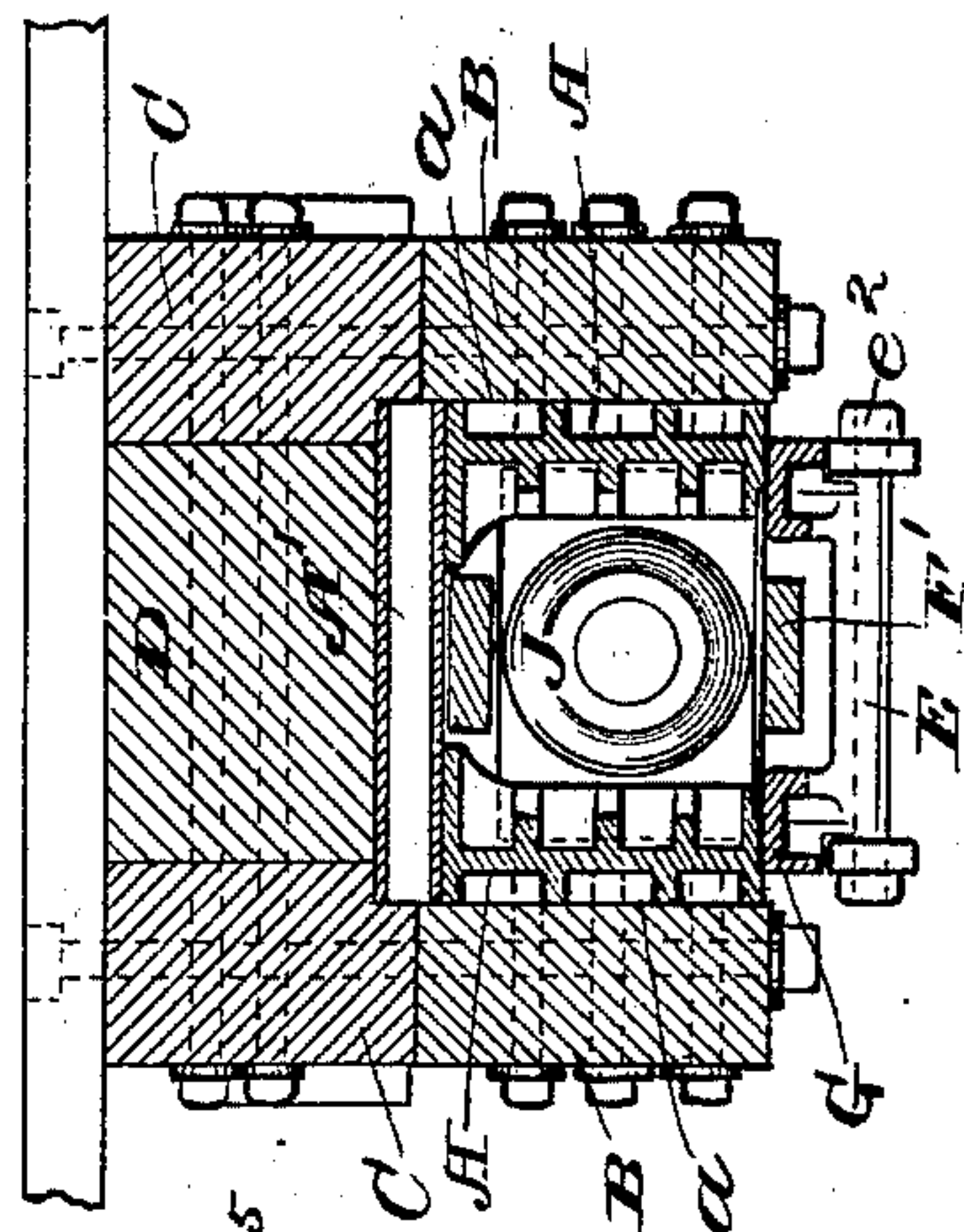


FIG. VI—

FIG. VII—

FIG. VIII—

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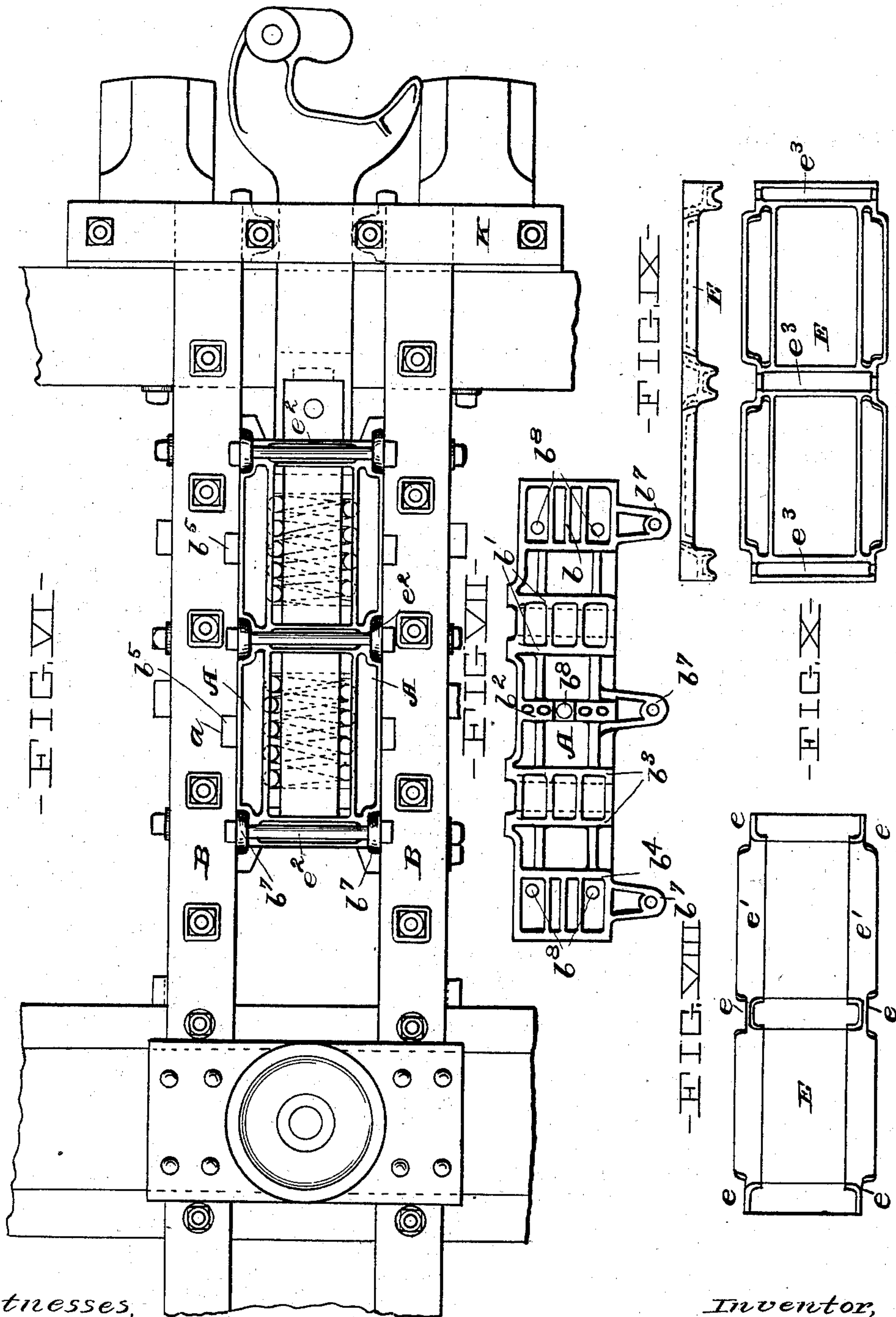
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2 Sheets—Sheet 2.



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UNITED STATES PATENT OFFICE.

BENJAMIN PATTERSON, OF CLEVELAND, OHIO.

DRAFT-RIGGING.

SPECIFICATION forming part of Letters Patent No. 698,551, dated April 29, 1902.

Application filed January 2, 1901. Serial No. 41,819. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN PATTERSON, a citizen of the United States, and a resident of Cleveland, county of Cuyahoga, and State of Ohio, have invented new and useful Improvements in Draft-Rigging, of which the following is a specification, the principle of the invention being herein explained and the best mode in which I have contemplated applying that principle, so as to distinguish it from other inventions.

My invention relates to draft-rigging for railway-cars, and has for its object the provision and arrangement of the elements of such device in a manner such as to present a more economical construction than has heretofore been applied for the purpose, such arrangement being made with special provision for accessibility and ready removal of parts for the purpose of repairs.

Said invention consists of means herein-after fully described, and specifically pointed out in the claims.

The annexed drawings and the following description set forth in detail certain mechanism embodying the invention, such disclosed means constituting but one of various mechanical forms in which the principle of the invention may be used.

In said annexed drawings, Figure I represents a vertical longitudinal section of that portion of a railway-car to which the draft-rigging is applied, showing the draw-bar strap and draw-stem in elevation. Fig. II represents a vertical transverse section taken upon the line 2-2, Fig. I. Fig. III represents an end elevation of the cheek-plates and carrier-plate. Fig. IV represents a top plan view of one cheek-plate. Fig. V represents a vertical longitudinal sectional view of the followers and springs, showing the draw-stem and one cheek-plate in elevation, illustrating the positions of the followers when actuated by a "buffing stress." Fig. VI represents a bottom plan view of a portion of a car, showing my improved device applied thereto. Fig. VII represents an elevation of one cheek-plate. Figs. VIII, IX, and X represent top plan and bottom plan views and a side elevation, respectively, of the carrier-plate used in my construction. Figs. XI and XII represent a partial side elevation and top plan

views, respectively, of a modified form of cheek-plate.

Two cheek-plates A A, of duplicate construction, are respectively secured to the opposing surfaces of the draft-timbers B, as shown in Fig. II. The inner face of each plate is provided with projecting stop-lugs b , b' , b^2 , b^3 , and b^4 , forming four intermediate spaces, the distance between b and b' , b' and b^2 , b^2 and b^3 , and b^3 and b^4 being made equal. The outer face is provided with two extended lugs b^5 , Figs. II, III, and IV, which are let into grooves a , formed in the draft-timbers A, as shown in Fig. VI. Two recesses b^6 are formed in the upper surface of each plate, as shown in Figs. IV and V, and the lower edge is provided with three downwardly-extending lugs b^7 , each provided with a bolt-hole. Bolt-holes b^8 are provided in the body of the plate, as shown in Fig. V, for bolts passing through and securing said plates to the draft-timbers. Said draft-timbers are secured to the center sills C by means of upright bolts, as shown in Fig. II, and placed between such sills is a filling-timber D, secured to same by means of transverse bolts, as shown. Transversely of said cheek-plates and in the recesses b^6 are placed two keys A', which are let into grooves formed in the adjacent surfaces of the draft-timbers, center sills, and filling-timber, as shown in Fig. II, the depth of the draft-timbers being made such as to cause their upper surfaces to fall opposite the extremities of the keys, as shown. The recesses b^6 are preferably located in the same transverse planes as are the outer lugs b^5 , so that the grooves in all the timbers are made continuous.

In place of using the keys A' the cheek-plates may be formed with upwardly and laterally extending lugs b^9 , Figs. XI and XII, which may be caused to engage the grooves in the draft and filling timbers and in the center sills. In either case the plates are secured to the entire surrounding structure, so as to prevent longitudinal displacement relatively thereto.

A carrier-plate E, Figs. VIII, IX, and X, is provided with recesses e , so placed and of a size such as to receive the lugs b^7 of the cheek-plates. Said carrier-plate is formed with an upper carrier-surface e' , which rests against the bottom of the cheek-plates and

extends inwardly from both sides, as shown in Fig. II. Bolts e^2 pass through the bolt-holes in lugs b^7 , beneath the carrier-plate, and in grooves e^3 , formed in the bottom surface of the latter, thus fixing said plate securely against longitudinal or lateral displacement and fixing the cheek-plates relatively to each other so as to prevent closing or spreading of same.

The draw-bar F has secured to its inner extremity the yoke F', which extends between the cheek-plates and is laterally inclosed thereby. Passing transversely through said yoke is loosely placed a series of four follower-plates G, of greater width than the distance between the stop-lugs upon opposite cheek-plates, whereby longitudinal movement of said follower-plates relatively to the cheek-plates is limited, one follower-plate being located between each two adjacent stop-lugs upon the same cheek-plate, as shown in Fig. V.

Each follower-plate is provided with a central opening, through which passes loosely a draw-stem H, one end of which abuts the draw-bar and the other the yoke, as shown in Fig. I. A collar h is formed upon the middle of said stem and is placed between the two central follower-plates.

Intermediately of each two adjacent end follower-plates are placed a set of helical springs J, transfixed by the draw-stem H, said springs holding the follower-plates normally against the stops b , b^2 , and b^4 , respectively, in the position shown in Fig. I, and the inner two plates against the collar h , the latter being made of the same thickness as stop b^2 .

The bottoms of the follower-plates rest upon the carrier-surface e' of the carrier-plate, whereby it is seen the latter supports the plates, yoke, draw-stem, and inner end of draw-bar in place. A strap K supports the front end of said bar, as shown in Fig. I.

In the above-described construction the stop-lugs b and b^2 receive the drawing strains through the medium of the springs excepting when the springs have been compressed a distance equal to the greatest possible travel of the follower-plates, when the strain is transmitted to stops b' and b^3 , as is readily seen. In a similar manner buffing strains are received by stops b^2 and b^4 through the springs and b' and b^3 through the followers, as shown in Fig. V.

In any case all stresses are transmitted to the draft-timbers through the medium of the lugs b^5 and keys A' and to the sills and filling-timbers through the medium of said keys, thereby relieving the draft-timbers of the entire strain and prolonging the life thereof.

By means of the above-described construction the follower-plates, springs, draw-bar,

and yoke may be readily removed or replaced by merely removing the carrier-plate and the strap K, making the whole extremely easy of access.

Other modes of applying the principle of my invention may be employed instead of the one explained, change being made as regards the mechanism herein disclosed, provided the means stated by any one of the following claims or the equivalent of such stated means be employed.

I therefore particularly point out and distinctly claim as my invention—

1. In a draft-rigging, the combination of a pair of draft-timbers, a pair of center sills above and secured to said timbers, a filling-timber between and secured to said sills, a pair of cheek-plates secured to said draft-timbers, means connected with said plates let into said sills and filling-timbers, whereby longitudinal displacement of such plates relatively to said sills and filling-timber is prevented, the follower-plates, springs, yoke and draw-bar.

2. In a draft-rigging, the combination of a pair of draft-timbers, a pair of center sills above and secured to said timbers, a filling-timber between said sills, a pair of cheek-plates secured to said draft-timbers and engaging transversely said sills and filling-timber, the follower-plates, springs, yoke and draw-bar.

3. In a draft-rigging, the combination of draft-timbers, center sills, a filling-timber between said sills and cheek-plates secured to said draft-timbers, said plates secured to said draft-timbers, said plates provided with means let into the draft-timbers, sills and filling-timbers, whereby longitudinal displacement of said plates is prevented relatively thereto, the follower-plates, springs, yoke and draw-bar, substantially as described.

4. In a draft-rigging, the combination of draft-timbers, center sills, a filling-timber between said sills and cheek-plates, the latter provided with transverse depressions upon their upper surfaces and keys located in said depressions, said keys engaging said sills and filling-timber.

5. In a draft-rigging, the combination of draft-timbers, center sills, a filling-timber between said sills, and cheek-plates, the latter provided with transverse depressions upon their upper surfaces and keys located thereon, said keys engaging said draft-timbers, sills and filling-timbers.

Signed by me this 31st day of December, 1900.

BENJAMIN PATTERSON.

Attest:

GEO. WM. SAYWELL,
A. E. MERKEL.