

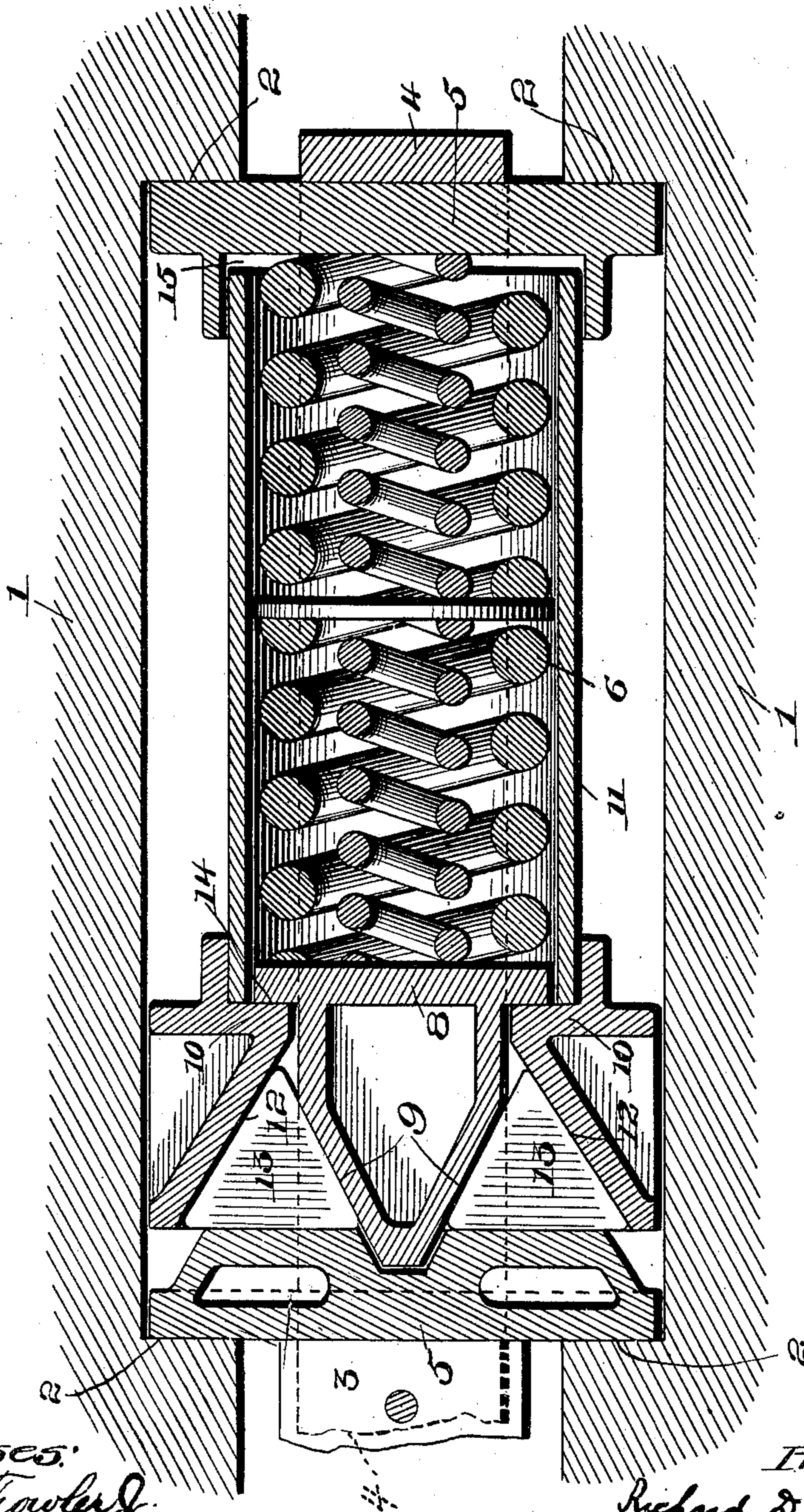
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R. D. GALLAGHER, JR.  
DRAFT AND BUFFING RIGGING.

(Application filed Dec. 5, 1901.)

(No Model.)



Witnesses:

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# UNITED STATES PATENT OFFICE.

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## DRAFT AND BUFFING RIGGING.

SPECIFICATION forming part of Letters Patent No. 693,596, dated February 18, 1902.

Original application filed August 26, 1901, Serial No. 73,287. Divided and this application filed December 5, 1901. Serial No. 84,803. (No model.)

*To all whom it may concern:*

Be it known that I, RICHARD D. GALLAGHER, Jr., of New York, in the county and State of New York, have invented certain new and useful Improvements in Draft and Buffing Rigging; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing, forming a part of this specification, and to the figures of reference marked thereon.

The present application is a division of my prior application, Serial No. 73,287, filed August 26, 1901, the device illustrated in the present case being one of the species illustrated in said prior application; and the invention consisting, broadly stated, in the employment of friction elements at one end only of the spring, said friction elements being so combined as to effect a greater range of movement in the compression of the spring than the range of movement of the draw-bar or pressure-transmitting member itself, and with a casing or secondary pressure-transmitting member extending from said friction elements to the opposite end of the spring, whereby said pressure-transmitting member will act directly on said friction elements under strains in one direction and on said secondary pressure-transmitting member and through it on said friction elements under strains in the opposite direction.

The invention further consists in certain novel details of construction and combinations and arrangements of parts, all as will be now described, and pointed out particularly in the appended claims.

The accompanying drawing is a section through a rigging embodying the present invention.

The structure is designed for application to the underframing of a car, the dimensions preferably being such as to adapt it to the ordinary car-framing and as a substitute for the ordinary draft-rigging.

In the illustration the car-framing is shown diagrammatically as indicated by the numeral

1, suitable stops, shoulders, or the like being provided thereon at 2 and between which the rigging is mounted, as usual. The numeral 3 indicates the draw-bar, and 4 the strap attached thereto, these two parts constituting what I term the "pressure-transmitting member," and it is obvious that the particular construction of the same is immaterial, just so it be capable of transmitting the draft and buffing strains to the rigging proper.

Follower-plates 5 5, adapted to seat against the stops 2, are employed, and between these follower-plates a spring or yielding resistance member and friction elements are arranged as follows: The spring 6 (or, if desired, two springs arranged tandem, with a spring-plate 7 between them) bears at one end against one of the follower-plates and at the opposite end against a follower 8, having inclined friction-faces 9 thereon, as shown. Surrounding the follower 9 is the head 10 of a casing 11, said head having inclines 12, forming, with the inclines 9 and follower 5, angular chambers, in which wedge-blocks 13 are located.

The casing and its head in the present structure constitute the secondary pressure-transmitting member, and the follower 8 preferably normally rests against shoulders in the head at 14, whereby the proper relative positions of the parts is maintained, and in the preferred construction also a slight movement is allowed said secondary pressure-transmitting member, as by having a small space between its end and the follower-plate at the rear end of the spring.

The spring is preferably inserted under a slight normal compression, and in operation under buffing strains the forward follower-plate is pushed inwardly against the wedge-blocks, causing them to travel down the inclines of the secondary pressure-transmitting member and, acting upon the inclines of the follower, advance the same in the direction of draw-bar movement, thereby compressing the spring. Under draft strains the rear follower-plate is advanced, and with it the secondary pressure-transmitting member, which latter,



acting through the wedge-blocks and inclines, causes the follower at the forward end of the spring to move rearwardly, thereby compressing the spring.

5 Under strains in both directions it will be noted that the range of spring compression is greater than the range of draw-bar movement, due to the fact that the draw-bar movement is supplemented by the movement due  
10 to the wedging action of the friction elements. Thus there is no lost motion in setting the friction elements into active relation. In the preferred construction, however, the secondary pressure-transmitting member is made  
15 slightly short to insure the setting of the spring under the desired initial compression and to allow for a slight spring compression before the friction elements are caused to act.

Obviously the relative arrangement of the  
20 follower and secondary pressure-transmitting members may be reversed, said secondary pressure-transmitting member being shown as a casing for the parts simply as a good mechanical construction well adapted for practical purposes, because easily constructed, of  
25 sufficient strength, and affording protection against dirt or injury through contact with external objects.

Having now described my invention, what  
30 I claim as new, and desire to secure by Letters Patent, is—

1. In an apparatus designed to take up draft and buffing strains applied to opposite ends thereof through the medium of a pressure-transmitting member, the combination  
35 of a yielding pressure-resisting member, a follower at one end of said yielding member and having inclined friction-faces, a longitudinally-movable secondary pressure-transmitting member having inclined friction-faces with connections between said secondary pressure-transmitting member and pressure-transmitting member whereby the former is moved  
40 longitudinally under strains in one direction, a stop for arresting its movement under strains in the opposite direction, a follower-plate and wedge-blocks located in the chambers between the inclined friction-faces and the follower-plate; substantially as described.

50 2. In an apparatus of the class described, the combination of a secondary pressure-transmitting member having inclined friction-faces and movable in one direction with means for holding it against movement in the  
55 opposite direction, a follower having inclined friction-faces and movable in a direction opposite to the direction of movement of the secondary pressure-transmitting member, a yielding pressure-resisting member cooperating with the follower, wedge-blocks located  
60 between said inclined friction-faces on the follower and secondary pressure-transmitting member, a follower-plate cooperating with said wedge-blocks and means for holding the  
65 follower-plate against movement away from

the follower, whereby under strains applied to the follower-plate in one direction or to the secondary pressure-transmitting member in the opposite direction, the wedge-blocks will be moved transversely and the follower moved  
70 in a direction to compress the yielding member; substantially as described.

3. In an apparatus of the character specified, the combination of the following instrumentalities, to wit; oppositely-located followers movable toward each other but held  
75 against movement away from each other, a follower located adjacent one of said follower-plates and having inclined friction-faces, a spring confined between said follower and the  
80 opposite follower-plate, a secondary pressure-transmitting member located between said plates and having inclined friction-faces, wedge-blocks located between the follower-plate and friction-faces on the follower and  
85 secondary pressure-transmitting member, respectively, and means whereby the opposite follower-plate and secondary pressure-transmitting member may be advanced in unison and the spring compressed from opposite ends,  
90 and whereby the advance of the follower-plate adjacent the follower, will compress the spring from one end; substantially as described.

4. In a draft-rigging the combination of follower-plates movable toward each other, a secondary pressure-transmitting member located  
95 between and engaging one of the same and having inclined friction-faces adjacent the other of said plates, a follower located adjacent the latter plate and having inclined friction-faces thereon, wedge-blocks located in the chamber between said plate and inclined  
100 faces whereby upon inward movement of either of said plates the follower will be moved in one direction, and a spring confined between said follower and the opposite follower-plate; substantially as described.

5. In a draft and buffing rigging, the combination with follower-plates movable toward each other, stops for limiting their outward  
110 movement, and a follower located adjacent one of said plates, and having inclined friction-faces, of a spring confined between said follower and the opposite plate, a secondary pressure-transmitting member surrounding  
115 said spring and having inclined friction-faces at one end and adapted to engage the plate at the opposite end, and wedge-blocks located in the chambers formed by the inclined faces on the follower and secondary transmitting  
120 member and the follower-plate at that end of the device, whereby inward movement of either plate will move the follower in a direction to compress the spring; substantially as described.

6. In a draft and buffing rigging, the combination with oppositely-located follower-plates, and a secondary pressure-transmitting member in the form of a casing interposed between and adapted to be moved by one of  
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said plates and having at one end internal inclined friction-faces, of a follower mounted to move in said secondary pressure-transmitting member and having inclined friction-faces, said faces, the faces on the said member and the plate at that end forming angular chambers, wedge-blocks located in said

chambers and a spring confined between the follower and plate at the opposite end of the device; substantially as described.

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