G. Q. LEWIS.

RAILWAY CAR DRAFT RIGGING.

APPLICATION FILED FEB. 26, 1917.

1,284,722.

Patented Nov. 12, 1918.

2 SHEETS—SHEET 1.

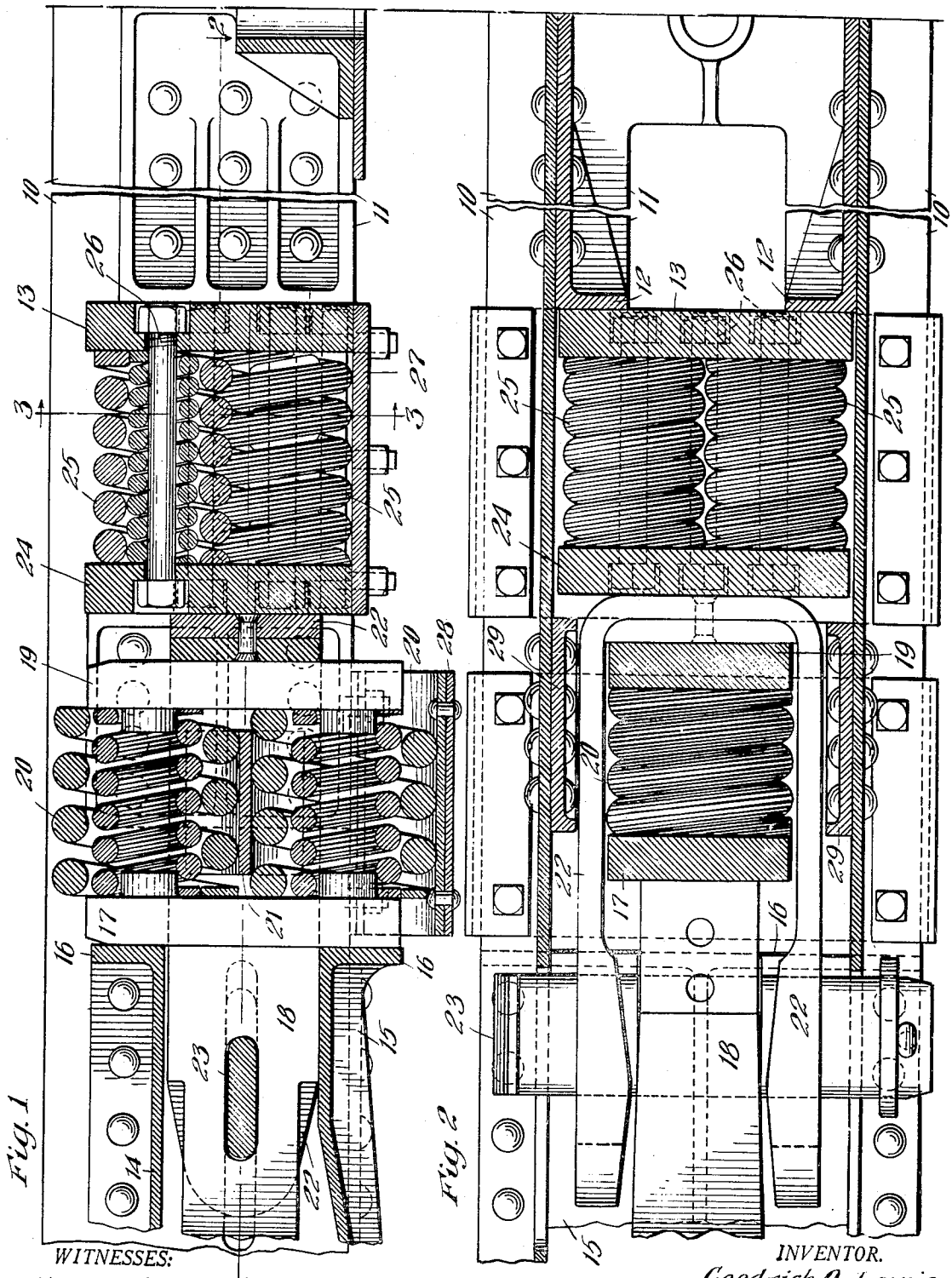


Fig. 1

Fig. 2

WITNESSES:

Wm. Geiger

INVENTOR.

Goodrich Q. Lewis

BY Geo. J. Haught

ATTORNEY.

G. Q. LEWIS.

RAILWAY CAR DRAFT RIGGING.

APPLICATION FILED FEB. 26, 1917.

1,284,722.

Patented Nov. 12, 1918.

2 SHEETS—SHEET 2.

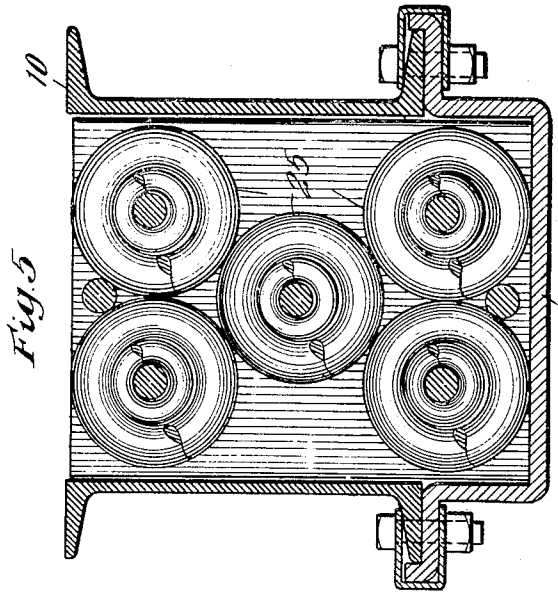


Fig. 5

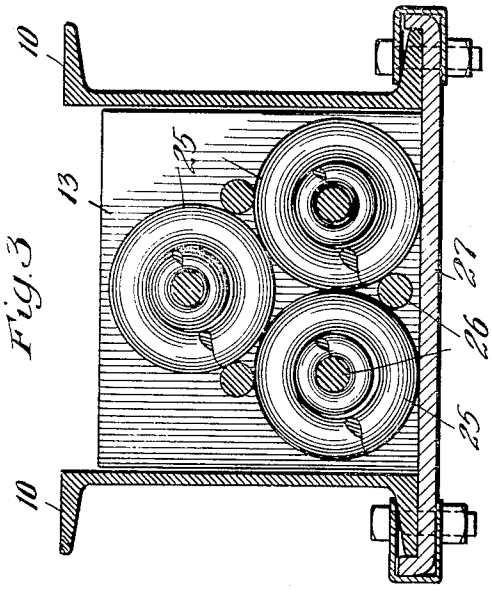


Fig. 3

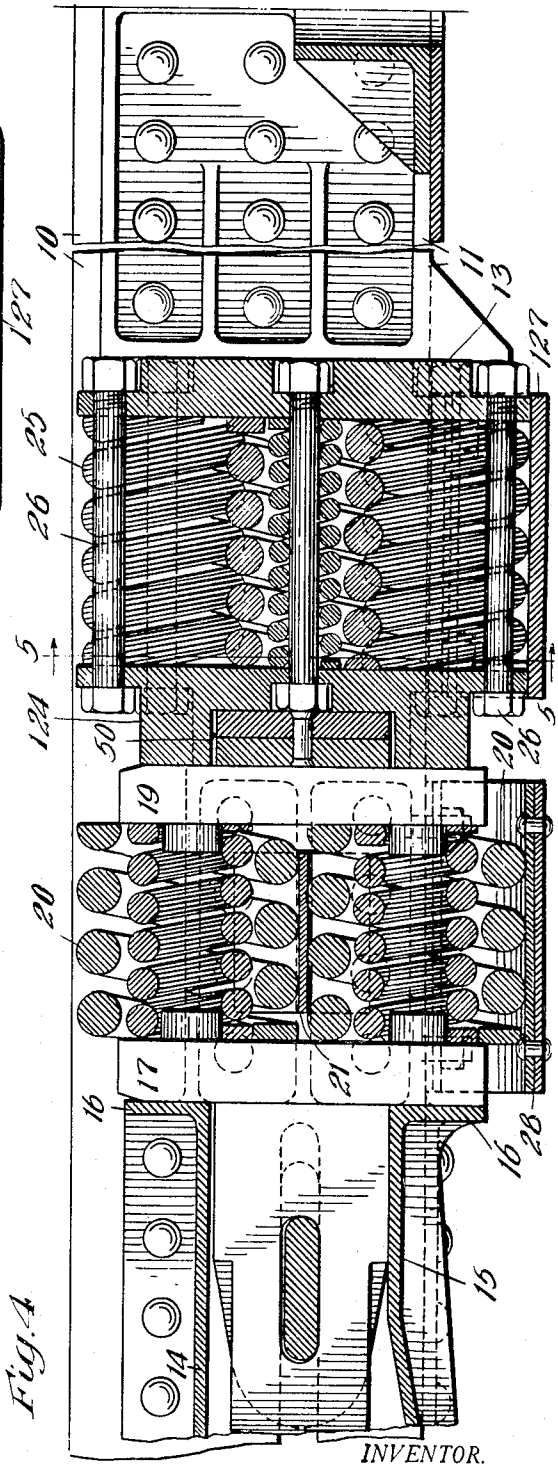


Fig. 4

WITNESSES:

Wm. Geiger

INVENTOR.

Goodrich A. Lewis

BY Geo. J. Haight

ATTORNEY.

UNITED STATES PATENT OFFICE.

GOODRICH Q. LEWIS, OF WHEATON, ILLINOIS, ASSIGNOR TO WILLIAM H. MINER, OF CHAZY, NEW YORK.

RAILWAY-CAR DRAFT-RIGGING.

1,284,722. Specification of Letters Patent. Patented Nov. 12, 1918.

Application filed February 26, 1917. Serial No. 150,964.

To all whom it may concern:

Be it known that I, GOODRICH Q. LEWIS, a citizen of the United States, residing at Wheaton, in the county of Dupage and State of Illinois, have invented a certain new and useful Improvement in Railway-Car Draft-Rigging, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

This invention relates to improvements in railway car draft riggings.

One object of the invention is to provide a spring gear arranged to utilize a high capacity resistance in buff, in addition to the capacity of the gear proper.

Another object of the invention is to provide a draft rigging wherein is employed a yieldable stop element for the rear follower of the gear proper.

In the drawing forming a part of this specification, Figure 1 is a vertical, longitudinal section of a draft rigging, showing my improvements in connection therewith. Fig. 2 is a horizontal sectional view of the structure illustrated in Fig. 1 and taken on the line 2—2 thereof, the position of the parts in Fig. 2 being that assumed under full buff. Fig. 3 is a transverse, vertical section taken on the line 3—3 of Fig. 1. Fig. 4 is a view corresponding to Fig. 1 but illustrating a somewhat different embodiment of the invention. And Fig. 5 is a vertical transverse sectional view taken on the line 5—5 of Fig. 4.

Referring first to the construction illustrated in Figs. 1, 2 and 3, 10—10 denote the draft or center sills of a car underframe, to which is secured a rear abutment casting 11, the latter having formed integrally therewith the center casting of the body bolster. The abutment casting 11 is secured to and extends between both sills and is provided at the front end with shoulders 12—12 against which bears the rear follower 13 of the rear heavy cushioning device, more particularly hereinafter described. Also secured to said sills near the front of the draft rigging, is an upper horizontal stop member 14 and lower horizontal stop member 15, said members 14 and 15 being provided with vertical flanges 16—16 forming shoulders for the front follower 17 of the gear proper. The stop members 14 and 15 are so spaced as to accommodate the butt 18 of the draw bar which slides therebetween and is supported by the lower stop member 15.

As shown, the gear proper of the draft rigging comprises, in addition to the front follower 17, a rear follower 19, vertical twin arranged springs 20—20 between the followers, combined spring spacer and limiting stop 21, and a horizontal yoke 22 which is connected to the draw bar by coupler-key 23.

The rear cushioning device which forms a yieldable rear stop for the follower 19, comprises, in addition to the follower 13, a follower 24 and triple heavy springs 25—25 triangularly arranged, as clearly shown in Fig. 3. The followers 13 and 24 and the springs therebetween are united and held in assembled relation by means of a plurality of connecting bolts 26. The rear cushioning device or yieldable rear stop is supported by a detachable saddle plate 27 and the gear proper by another saddle plate 28. In normal position of the parts and also under draft, the follower 24 engages intermediate stops 29, most clearly shown in Fig. 2.

It will be noted that the rear follower 19 of the gear proper is resisted in its rearward movement by the follower 24 through the interposed rear portion of the yoke 22. The three springs of the rear cushioning device or yieldable rear stop are made of considerably higher capacity than the two springs employed in the gear proper so that, upon buffing movement, the springs of the gear proper will be compressed up to their full capacity, say 60,000 pounds, and additional shocks will be absorbed by the rear cushioning device employing the triple springs, the latter having a capacity of, say 90,000 pounds. In this way, the draft rigging is adapted to absorb buffing shocks of abnormal intensity while at the same time being so arranged as to absorb normal shocks without employing too stiff a resistance. Furthermore, the arrangement is such that the resistance is graduated up to the full capacity under buff. In draft, it is obvious that the rear cushioning device will not come into play but all draft or pulling shocks will be absorbed by the gear proper.

In the construction illustrated in Figs. 4 and 5, the arrangement is similar to that shown in the other figures except that five springs are employed in the rear cushioning device or yieldable stop to obtain a still

higher ultimate shock absorbing capacity. In this construction, the front follower of the rear cushioning device 124 is preferably recessed, as indicated at 50, to accommodate the rear end of the horizontal yoke. In order to procure the necessary additional space for the five springs, the saddle plate 127 for supporting the same is provided with a downwardly offset pocket, as clearly shown in Fig. 5, in which are received the two lower springs of the set. The operation is the same as above described for the other construction and need not here be detailed.

I claim:

In a draft rigging, the combination with draft sills, of two cushioning devices arranged one behind the other, the inner cushioning device being of higher capacity than the outer cushioning device, said inner device having a front follower and the outer device having a rear follower, of rear stop-acting means for the inner cushioning device, a horizontal yoke passing around the outer cushioning device, the rear end of said yoke being interposed between said followers and movable rearwardly in unison with both of said followers, a draw bar, said draw bar being movable rearwardly independently of the yoke.

In witness that I claim the foregoing I have hereunto subscribed my name this 15th day of Feb., 1917.

GOODRICH Q. LEWIS.