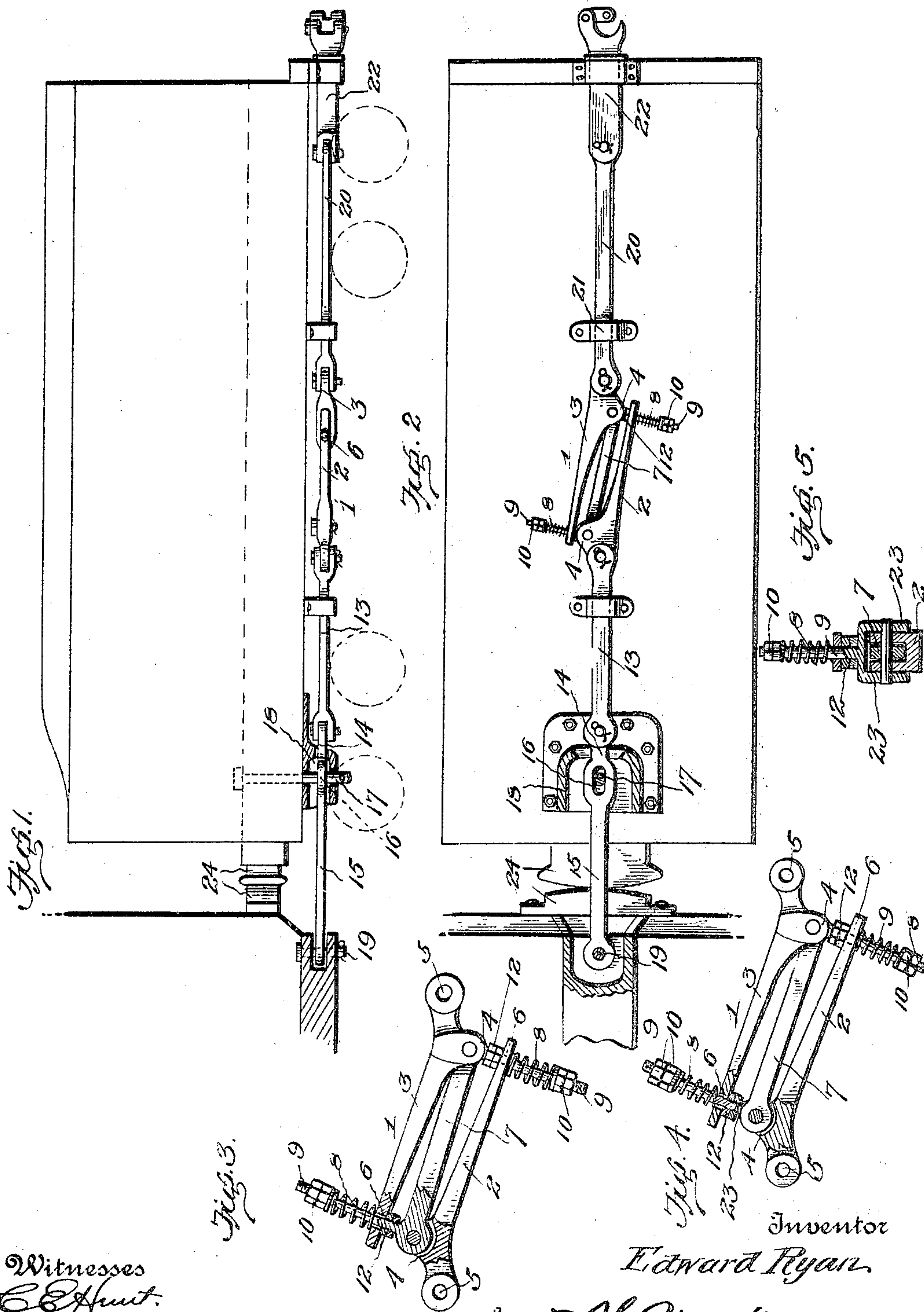


No. 812,682.

PATENTED FEB. 13, 1906.

E. RYAN.
SLACK ADJUSTER FOR DRAW BARS.

APPLICATION FILED JULY 17, 1905.



Witnesses
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UNITED STATES PATENT OFFICE.

EDWARD RYAN, OF CLINTON, IOWA.

SLACK-ADJUSTER FOR DRAW-BARS.

No. 812,682.

Specification of Letters Patent.

Patented Feb. 13, 1906.

Application filed July 17 1905. Serial No. 270,038.

To all whom it may concern:

Be it known that I, EDWARD RYAN, a citizen of the United States, residing at Clinton, in the county of Clinton and State of Iowa, have invented certain new and useful Improvements in Slack - Adjusters for Draw-Bars; and I do 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.

This invention relates to slack - adjusters for draw-bars.

The object of the invention is to provide a device of this character which is adapted to be applied to the draw-bars of a locomotive-tender, whereby said bars will yield sufficiently to overcome the increase in the traction force of the locomotive when worked to its full capacity or when swinging around curves, after which when the increase in the pull is taken off the draw-bars the slack in the same will be taken up.

With these and other objects in view the invention consists of certain novel features of construction, combination, and arrangement of parts, as will be more fully described, and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a side elevation of a locomotive-tender and a portion of the rear end of a locomotive, showing the application of the invention. Fig. 2 is a bottom plan view of the same. Fig. 3 is a detail plan view of the adjuster removed from the draw-bars, parts of the same being shown in section. Fig. 4 is a similar view showing a modified construction of the link and spring-holding rods or bolts, and Fig. 5 is a cross-sectional view of the adjuster on a line with the rods or bolts as formed in Fig. 4.

Referring more particularly to the drawings, 1 denotes the slack-adjuster, which consists of a pair of levers 2 and 3, each of which is provided on one side and near one end with a pair of apertured offset lugs or ears 4. In the adjacent end of said levers is formed a transversely-disposed aperture 5, and in the opposite ends of the levers is formed an aperture 6, said apertures 6 being disposed at right angles to the apertures 5. Between the offset lugs 4 of the levers is pivotally secured the ends of a link 7, which connects said levers together. The pivotal connection of the ends of the link 7 being offset from the levers in the lugs 4, a longitudinal pull on said levers

will tend to cause the opposite ends of the same to fly outwardly, said outward movement of the levers being yieldingly resisted by coiled springs 8, arranged on bolts or threaded rods 9, secured to or formed integral with the ends of link 7 and projecting laterally in opposite directions from the opposite sides of the link, said rods or bolts projecting through the apertures 6 in the adjacent ends of the levers and having screwed on their outer ends nuts 10, whereby the tension of the springs 8 may be regulated. On the bolts or rods 9 between the ends of the levers and the lugs 4 are arranged nuts 12, whereby the position of this end of the levers on the rods 9 may be adjusted.

In the aperture 5 of the lever 2 is pivotally connected the inner end of a connecting-rod 13, slidably mounted in a guide-bracket 14 on the bottom of the tender, the opposite end of said rod 13 being pivotally connected to the apertured extended end 14 of the engine draw-bar 15, said bar being provided adjacent to its extended end with a longitudinally-disposed slot 16, through which is adapted to pass a pin 17, which is arranged in a socket-casting 18 on the bottom of the tender and by which said draw-bar is slidingly connected to the tender. The opposite end of the draw-bar 15 is connected to the engine by a pin or bolt 19 in the usual manner.

In the aperture 5 of the lever 3 is pivotally secured the inner end of a connecting-rod 20, which is slidably mounted in a guide-bracket 21 on the bottom of the tender, the opposite end of said connecting-rod being pivotally connected to the draw-bar 22 on the rear end of the tender, said draw-bar being of the usual or any desired construction.

In Figs. 4 and 5 of the drawings is shown a modified construction of the adjuster. In this instance the rods or bolts 9 are formed separate from the link 7, and one end of said rods is forked or provided with parallel apertured ears or lugs 23, by which the same is pivotally connected to the apertured lugs 4 of the levers 2 and 3.

The adjacent ends of the engine and tender are provided with chafing-irons 24, which are normally held in engagement by the arrangement of the yieldably-mounted spring-controlled slack-adjuster, which is adapted to receive the draft and strain from the engine. Should the slack-adjuster become broken, the end wall of the slot 16, formed in the draw-bar 15, will be engaged with the pin or bolt

17, thereby applying the draft to said pin or bolt, which only serves as an emergency-coupling when, as before stated, the slack-adjuster or one of the connecting-bars becomes broken. When the draft is applied to the slack-adjuster, the tendency of the ends of the levers is to fly outwardly, this movement being yieldingly opposed by the springs 8 on the rods 9, which as soon as the draft is lessened will force the levers back to their normal positions, thus taking up the slack in the draft mechanism.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

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

1. A slack-adjuster of the character described, comprising a pair of levers, offset apertured lugs formed on said levers near one end thereof, a link pivotally connected at its opposite ends to said lugs, and means to yieldingly connect the opposite ends of said link to the longer ends of said lever, substantially as described.

2. A slack-adjuster of the character described, comprising a pair of levers, offset apertured lugs formed on said levers near one end thereof, a link pivotally connected to said lugs, tension-rods arranged on the pivoted ends of said link, and means whereby the longer ends of said levers are yieldingly connected to said rods, substantially as described.

3. A slack-adjuster of the character de-

scribed, comprising a pair of levers, offset apertured lugs formed on said levers near one end thereof, a link pivotally connected to said lugs, tension-rods arranged on the pivoted ends of said link and adapted to project through apertures in the longer end of said levers, and means whereby said ends of the levers are yieldingly and adjustably connected to said tension-rods, substantially as described.

4. A slack-adjuster of the character described, comprising a pair of levers, offset apertured lugs formed on said levers near one end thereof, a link pivotally connected to said lugs, threaded tension-rods formed on the ends of said link-bar and adapted to project through apertures in the longer ends of said levers, adjusting-nuts arranged on said rod between the link and said lugs on the levers, adjusting-nuts arranged on the outer end of said rods, and a coiled spring arranged between said latter nuts and said ends of the levers, substantially as described.

5. A slack-adjuster of the character described, comprising a pair of levers, offset apertured lugs formed on said levers near one end thereof, a link pivotally connected to said lugs, and adapted to project through apertures in the longer end of said levers, means whereby said ends of the levers are yieldingly and adjustably connected to said tension-rods, a slotted draw-bar, and connecting-rods to pivotally connect the shorter ends of said rods with said slotted draw-bar and with the draw-bar on the opposite end of the tender, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

EDWARD RYAN.

Witnesses:

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E. J. BLESSINGTON.