

No. 688,260.

Patented Dec. 3, 1901.

J. J. O'BRIEN.
COMPENSATING LEVER FOR CAR COUPLINGS.

(Application filed Oct. 1, 1900.)

(No Model.)

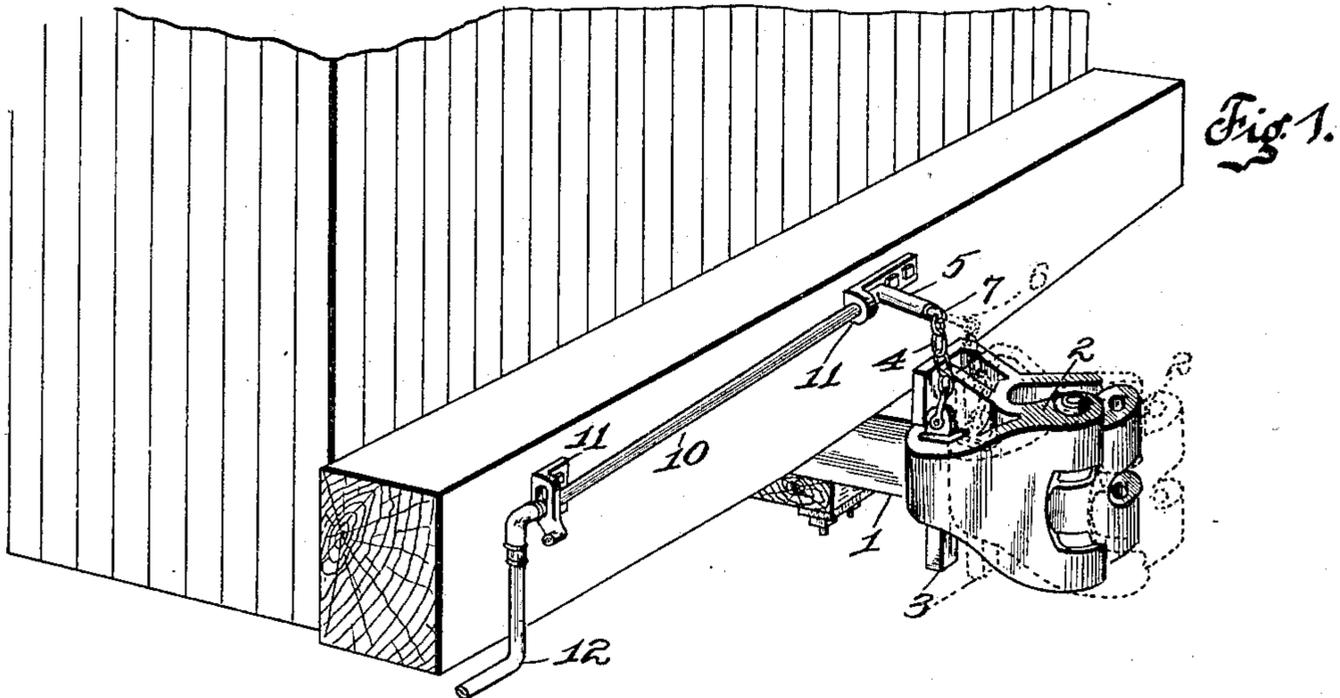


Fig. 1.

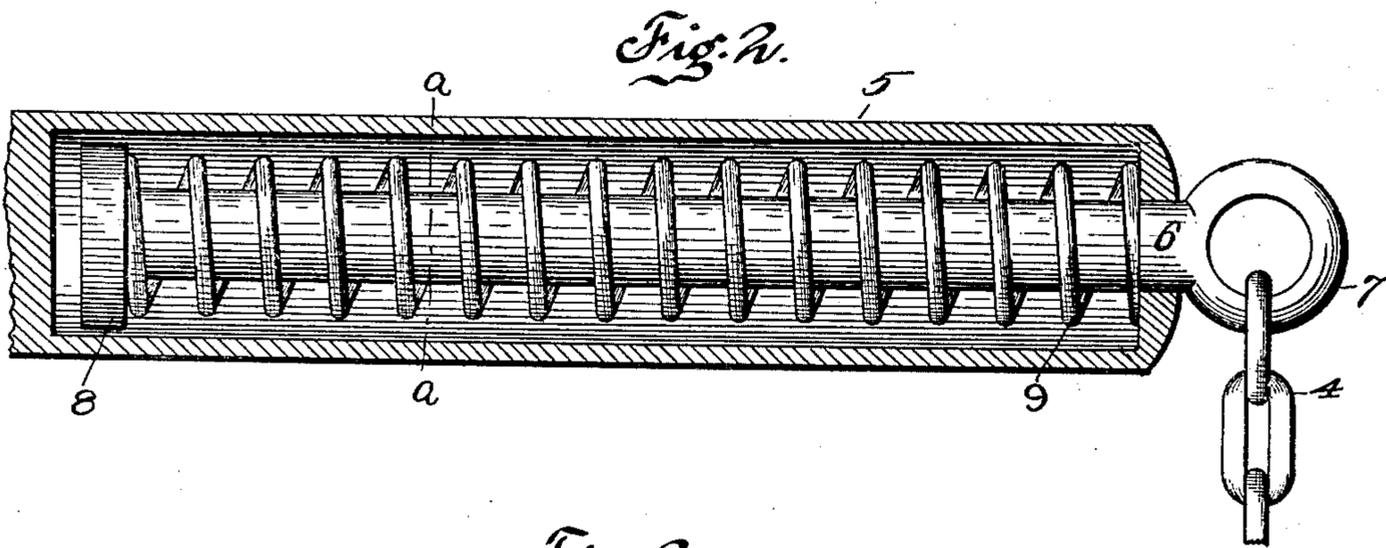


Fig. 2.

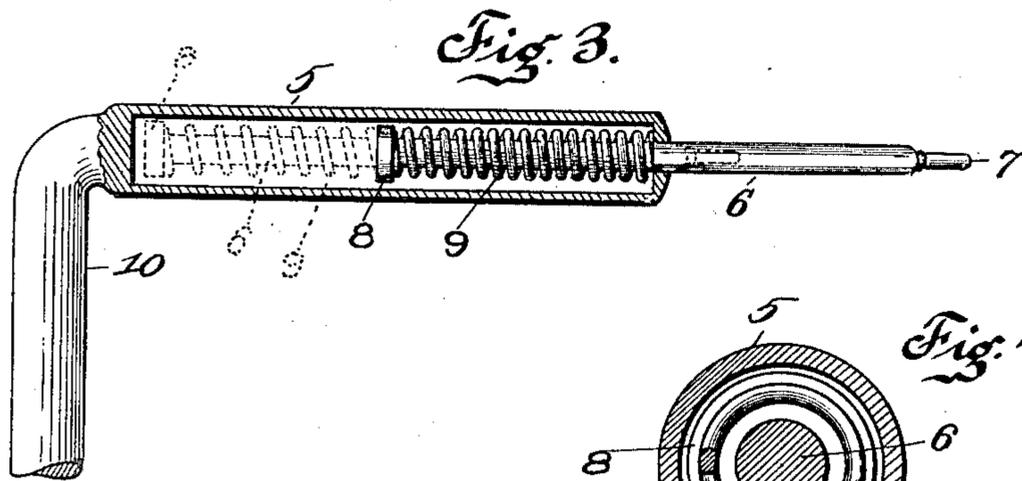


Fig. 3.

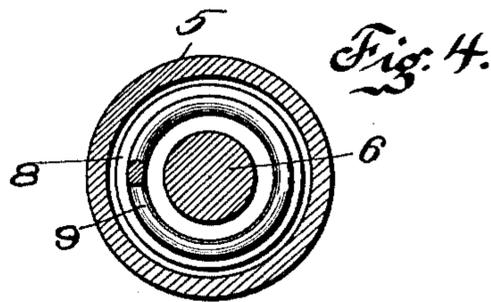


Fig. 4.

Witnesses

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UNITED STATES PATENT OFFICE.

JOHN J. O'BRIEN, OF ST. LOUIS, MISSOURI, ASSIGNOR TO EDWARD L. ADREON, JR., OF ST. LOUIS, MISSOURI.

COMPENSATING LEVER FOR CAR-COUPLINGS.

SPECIFICATION forming part of Letters Patent No. 688,260, dated December 3, 1901.

Application filed October 1, 1900. Serial No. 31,708. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. O'BRIEN, of the city of St. Louis, State of Missouri, have invented certain new and useful Improvements in Compensating Levers for Car-Couplings, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

This invention relates to compensating levers for car-couplings; and it consists of the novel construction, combination, and arrangement of parts hereinafter shown, described, and claimed.

The couplings at present in use on railway cars vary their positions considerably on account of the buffeting and drawing action to which they are necessarily subject. No allowance, however, has been made whereby the chain connecting the locking-pin to the unlocking-rod can vary its length to compensate for this movement, and as a consequence the chains are frequently broken as the draw-heads are drawn farther away from the car out of the reach of the connecting-chain. This results in a great deal of trouble to the operator and expense to companies, owing to the existing laws pertaining to these devices. Furthermore, the tension on the chain would have the tendency to lift the locking-pin, resulting in uncoupling the cars.

My present invention has for its object the construction of a compensating lever whereby the connecting-chain is allowed to be drawn out as the draw-head is drawn farther away from the car, and whenever the draw-bar is in its normal position the chain will be held up out of contact with the draw-head. The means which I employ to attain these results are clearly set forth in the following detailed description, reference being had to the drawings, in which—

Figure 1 is a view showing my improved compensating lever in operative position. Fig. 2 is a sectional view showing in detail the means whereby the locking-pin is allowed to adjust itself in various positions. Fig. 3 is a sectional view showing the position which the compensating device assumes whenever the locking-pin is drawn away from the unlocking-lever. Fig. 4 is a cross-sectional view taken on the line *a a* of Fig. 2.

It will be observed that I use the form of unlocking-lever which is of the Master Car-Builders' type and the proportions of which conform to the requirements of this class of levers. In brief, my invention consists in attaching a compensating device to the inner end of the lever of the class mentioned, which consists of an arm of the lever in the form of a cylinder or casing which incloses a pin and spring, the latter being around the former, which is connected to the lock by the usual connection. It is essential to construct a device of this character which will fulfil all requirements and be operative that the end of the spring-casing be immediately over the lock in order to give the proper leverage to support the pin and to provide a spring of sufficient length to be of any benefit.

In Fig. 1 is shown an ordinary coupling, consisting of the draw-bar 1 and the draw-heads 2. The draw-bars are so connected to the cars that they may considerably vary their positions without unnecessarily jarring and causing injury to the car-frame. The dotted lines show the positions of the draw-heads when drawn away from the car, and when in this position the chains at present used to connect the locking-pin with the unlocking-lever are frequently broken owing to the fact that their length is determined by given leverage and they cannot adjust themselves to the varying positions of the draw-heads. 3 indicates the locking-pin, and 4 the connecting-chain whereby it is connected to the unlocking-lever. These parts are of the usual construction and require no further detailed description.

In Figs. 2 and 3 is shown in detail the compensating device interposed between the chain and the unlocking-lever, whereby the locking-pin and connecting-chain are allowed to be drawn farther away from the unlocking-lever than is possible in those of ordinary construction. This compensating device consists of a tubular or cylindrical casing 5, having an opening at one end through which operates a rod 6. The said rod fits snugly within the opening and completely closes the same to prevent moisture and other foreign substances from reaching the inside of the casing and causing injury to the parts contained

therein. The rod 6 is provided on its outer end with an eye 7, to which the upper end of the chain 4 is connected. The end of the rod 6 within the casing 5 is provided with a rigid head 8, larger than the body of the rod, but free to operate within the casing 5. An expansive coil-spring 9 is mounted around the body of the rod 6 within the casing, its one end bearing against the end of the casing 5 and its other end bearing against the head 8, thereby holding the rod 6 in its normal position, which is that shown in Fig. 2. The end of the casing 5 opposite from the end through which the rod 6 projects is connected to a lever 10, which is of usual construction and, as customary, is supported by means of supports 11, and the outer end of the said lever is provided with the usual crank 12.

The parts described are adjusted in the usual manner, as shown in Fig. 1, the casing 5 and the parts carried thereby being supported adjacent to the draw-bar. The locking-pin 3 is applied to all automatic draw-bars in the usual manner in coupling the cars together, and while the draw-bars are in their normal positions the chain 4 is held up out of contact with the draw-heads, as shown in Fig. 1. Whenever the draw-bars are drawn out by the movement of the cars, the pin 3 is carried along and the chain 4, connecting the pin 3 to the rod 6, draws the said rod outwardly, compressing the spring 9 in the manner shown in Fig. 3. The positions of the various parts are indicated by dotted lines in Fig. 1.

It is manifest that any other means may be used to retain the rod 6 in its normal position—such as rubber, &c.—and I do not desire to be limited to the exact construction

shown and described, since the principle involved in either case would be the same and mere mechanical changes only would be required to substitute one device for another.

By referring to Fig. 1 of the drawings it appears that the part 5 and the parts carried thereby are in a horizontal position and that the outer end of the said part 5 is directly above the locking-pin when the draw-bars are in their normal positions. The purpose of this arrangement is to avoid having any unnecessary weight on the spring when the lever is operated to raise the locking-pin out of the draw-head. This results in increased leverage, and the spring will retain its tension a longer time than if the weight of the pin were carried thereby at every operation of the lever.

I claim—

In combination with an unlocking-rod of the Master Car-Builders' type, having a cylindrical casing projecting therefrom and formed integral therewith, of a rod projecting into said casing approximately of the same length therewith, and a spring within said casing and surrounding said rod adapted to compensate for the movement of the draw-head and return the pin to normal position when drawn outward, a locking-pin and a connection between said rod and pin permitting free lateral movement of the draw-head with respect to the rod.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN J. O'BRIEN.

Witnesses:

ALFRED A. EICKS,
JOHN D. RIPPEY.