No. 833,812. PATENTED OCT. 23, 1906.

T. WELCH.

LOCK LIFTER FOR RAILWAY AUTOMATIC COUPLINGS.

APPLICATION FILED FEB. 23, 1906.

Fig. 1.

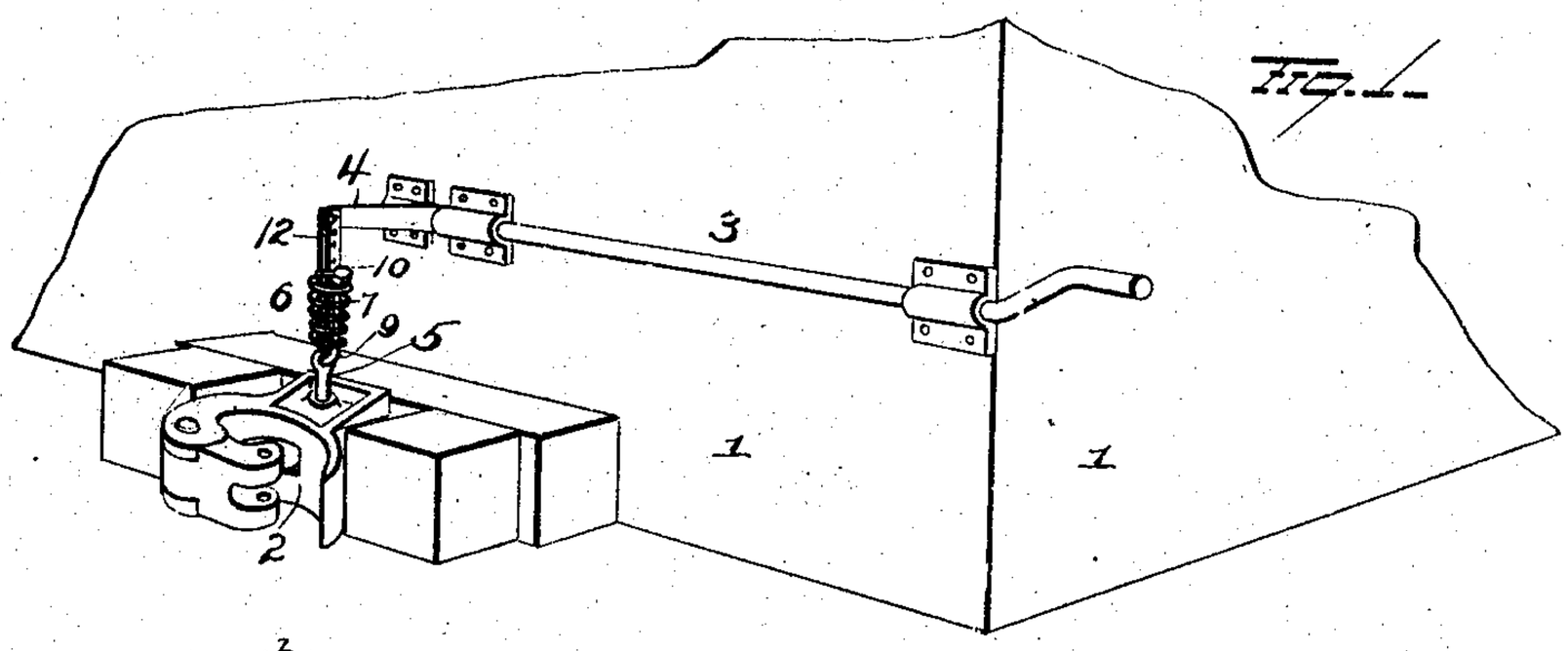


Fig. 2.

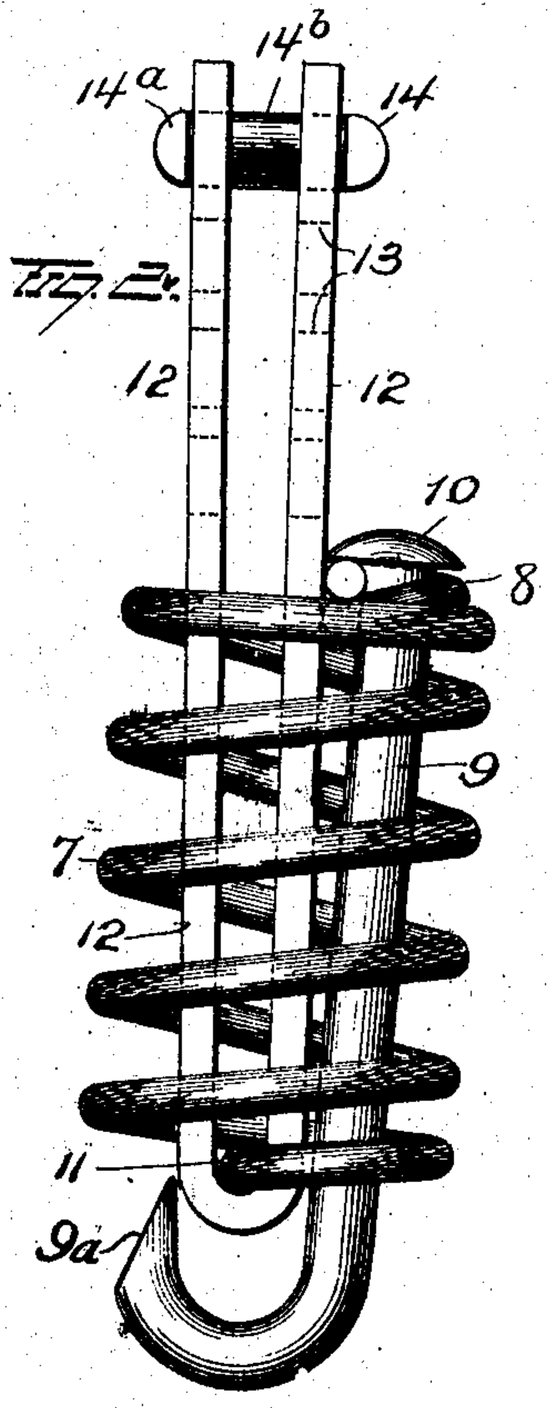


Fig. 4.

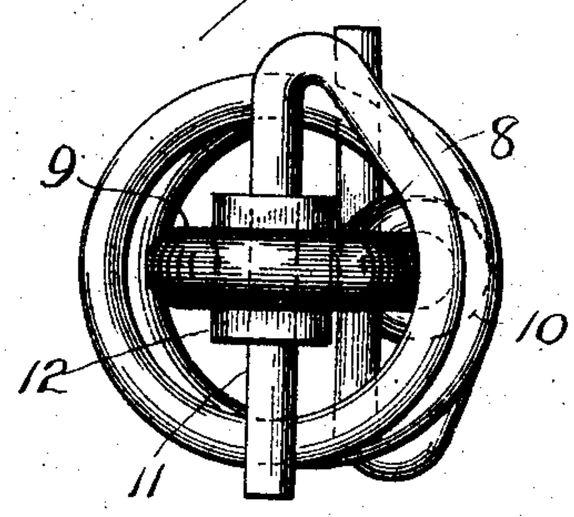


Fig. 5.

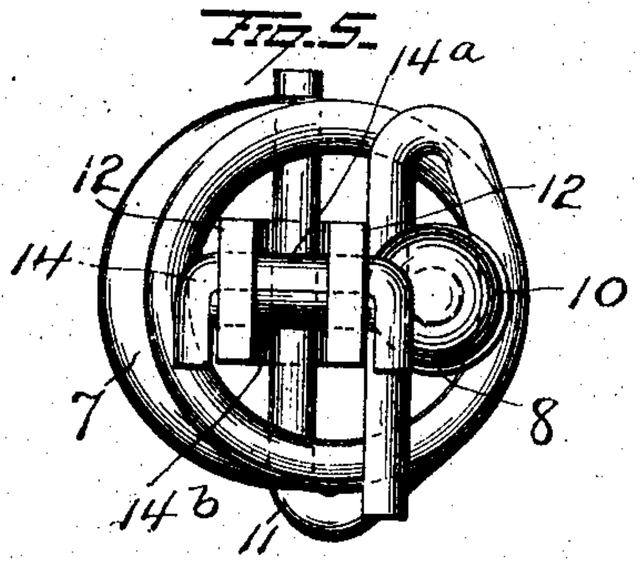


Fig. 6.

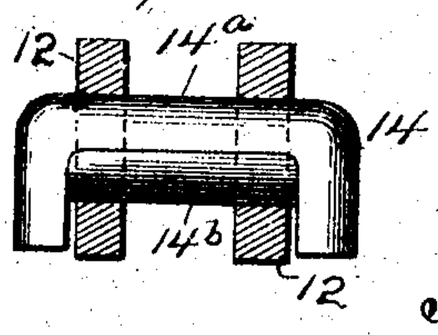
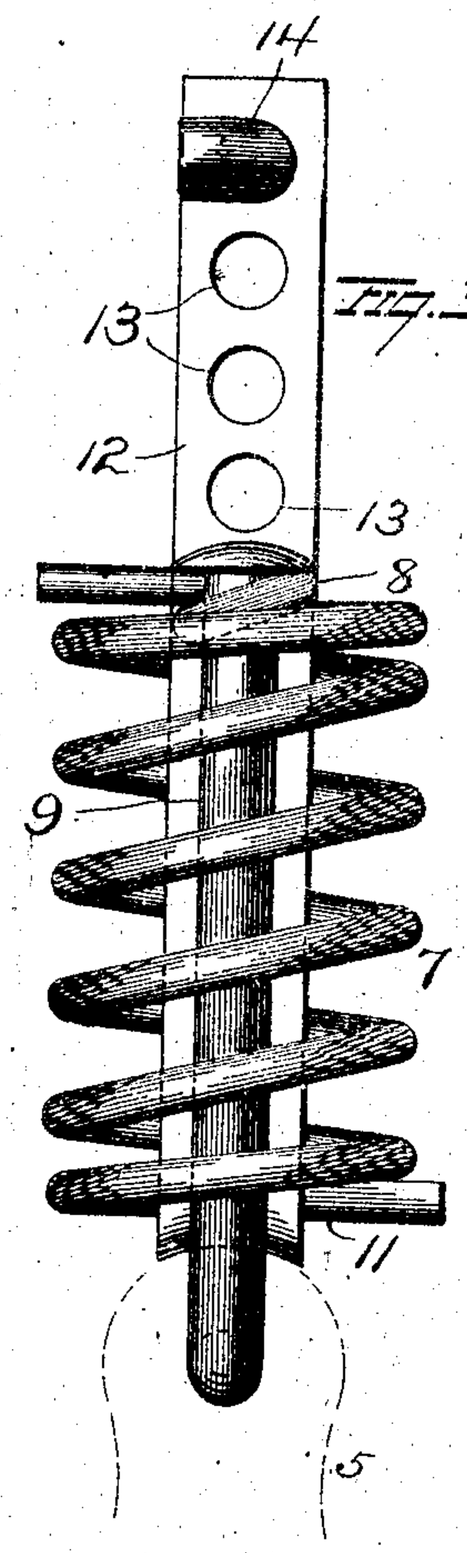


Fig. 3.



WITNESSES

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LOCK-LIFTER FOR RAILWAY AUTOMATIC COUPLINGS.

No. 833,812. Specification of Letters Patent. Patented Oct. 23, 1906.

Application filed February 23, 1906. Serial No. 302,480.

To all whom it may concern:

Be it known that I, THOMAS WELCH, a resident of Paw Paw, in the county of Van Buren and State of Michigan, have invented certain new and useful Improvements in Lock-Lifters for Railway Automatic Couplers; and I do hereby 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.

My invention relates to improvements in lock-lifters for railway automatic car-couplings, and more particularly to improvements upon that for which Letters Patent were granted to me April, 1902, and designated by No. 697,048, the objects of my present invention being to simplify and improve the device to render it easy of application and at the same time secure in its connection with the locking-lever of the coupling and the operating crank-shaft and to provide simple and efficient adjusting means whereby the device may be readily adapted to the particular car to which it may be applied.

With these objects in view the invention consists in certain novel features of construction and combinations and arrangements of parts, as hereinafter set forth, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view illustrating an application of my improvements. Fig. 2 is a view in elevation of the lifter. Fig. 3 is a similar view taken at right angles to Fig. 2. Fig. 4 is a bottom plan view of the device. Fig. 5 is a top plan view of the same. Fig. 6 is a detail view illustrating the pin or bolt 14.

1 represents a car-body having an automatic coupling 2 attached thereto. A rock-shaft 3, mounted on the end of the car-body, is provided with an arm 4, connected, through the medium of my improved lock-lifter 6, with the coupler lock-pin 5.

In constructing the lock-lifter 6 I employ a spring 7, bent at its upper end to form an eye 8, which receives a bar 9, having a head 10 at its upper end disposed over said eye. The bar 9 extends down through the coiled spring 7 and is provided at its lower end with a hook 9^a. The lower hooked end of the bar 9 is beveled to facilitate its entrance into the eye of the coupling lock-pin 5, and the hook 9^a is sufficiently long to prevent any possibility of accidental disconnection from the lock-pin.

The lower end 11 of the coiled spring 7 is bent across the lowest convolution of the latter. A U-shaped bar 12, consisting of a strip of metal bent upon itself, passes through the spring 7 and extends some distance above the same. The lower end of this bar, where its members unite, engages the part 11 at the lower end of the spring, and the members of the bar 12 are each provided in their upper portions above the spring with a series of alined holes 13 to receive in any of them a locking-pin 14 for connecting the bar with the arm 4 of the rock-shaft 3. In this way the connection of the lifter with the rock-shaft can be adjusted in accordance with the distance between the coupling and the rock-shaft on the particular car to which my improvements may be applied.

The locking pin or bolt 14 comprises two parts 14^a and 14^b, both of semicircular form in cross-section. The member 14^a of the bolt is of appreciably greater length than the member 14^b to permit its ends to be bent at right angles on the outside of the members of bar 12 for permanently securing the parts together and to hold the shorter member 14^b of the bolt against the member 14^a thereof and form a cylindrical journal. In assembling the parts one end of member 14^a is bent at right angles and with member 14^b is passed through the holes or bearings 13 in the members of the bar 12. The other end of the member 14^a of the bolt is then bent at right angles to retain the parts in place.

The hook 9 can be readily manipulated by reason of its free mounting in the spring 7, and its beveled end permits its easy insertion in the eye of the coupling lock-pin 5. When the operator has determined the proper adjustment of bar 12 relatively to the arm 4 of the rock-shaft 3, the locking pin or bolt can be placed in position, as above explained, and there will be no possibility of accidental displacement.

A movement of the rock-shaft 3 first causes the spring 7 to be compressed until the tension of the spring is sufficient to raise the coupling-lock. This is very essential, as it is very often desirable to uncouple when the couplings are subjected to draft or other strain, and it is necessary to provide a compression-spring to store the power ap-

plied until the strain is overcome or relieved, when the spring will expand and raise the coupling-pin and obviates any necessity for a brakeman entering between cars to uncouple regardless of conditions.

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

1. A lock-lifter, comprising a spring, a hook-bolt passing through said spring and connected to the upper end thereof, a bar passing through the spring and connected with the lower end thereof, and means for adjustably connecting said bar with an operative device.

2. An unlocking device for car-couplings, comprising a compression-spring, a bolt connected with the upper end of the spring and adapted to engage the coupler-lock, a bar connected with the lower end of the spring and projecting up through the spring, and a bolt to enter any of a series of perforations in said bar for connecting the same with operating means.

3. An unlocking device for car-couplings, comprising a compression-spring, a bolt to engage the coupling-lock, connected with the upper end of the spring, a bar passing through the spring and connected to the lower end thereof, an operating-arm, and a safety-pin for adjustably connecting said bar to the operating-arm.

4. A lock-lifter comprising a spring, a bolt passing through the spring and connected with the upper end thereof, a U-shaped bar passing downwardly through the spring and connected with the lower end thereof and a bolt passing through both members of the U-shaped bar for connecting the device with operating means.

5. A lock-lifter comprising a spring, means for connecting one end thereof with a coupling-lock, a bar connected with the other end of said spring, and a bolt passing through said bar for attachment of operating means, said bolt comprising two parallel members, one longer than the other, the ends of the longer member provided with laterally-projecting portions to prevent escape of the bar.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

THOMAS WELCH.

Witnesses:

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