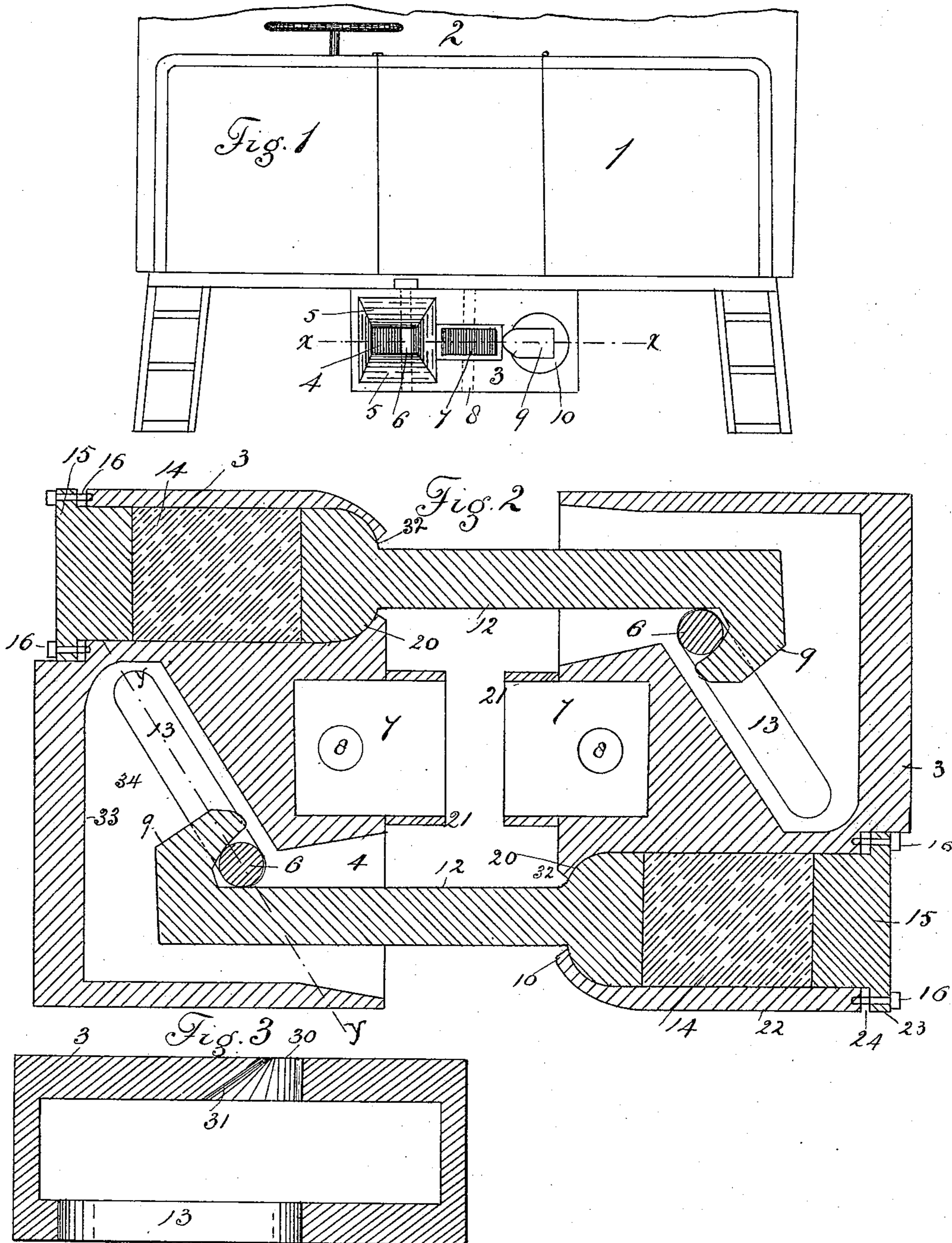


(No Model.)

A. B. McCLAVE.
CAR COUPLING.

No. 430,216.

Patented June 17, 1890.



WITNESSES:

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ALBERT B. MCCLAVE, OF PLATTEVILLE, COLORADO.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 430,216, dated June 17, 1890.

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To all whom it may concern:

Be it known that I, ALBERT B. MCCLAVE, a citizen of the United States, residing at Platteville, in the county of Weld and State of Colorado, have invented certain new and useful Improvements in Car-Couplers; 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in couplings for railway-cars; and the object of my invention is to provide a device of the class stated which shall be perfectly automatic in action and applicable to either passenger-coaches or freight-cars, said coupling to be of simple construction, economical in cost, reliable and effective in operation, and efficient and durable in use.

To these ends my invention consists of the features, arrangements, and combinations hereinafter described and claimed.

In the drawings is illustrated an embodiment of the invention, in which drawings Figure 1 is an elevation of a portion of the end of a car, showing my improved coupling in place. Fig. 2 is an enlarged horizontal section taken on the line *x x*, Fig. 1, showing two adjacent draw-heads provided with my improvement and illustrating the parts in the locking position. Fig. 3 is a vertical section taken through the draw-head on the line *y y*, Fig. 2.

In these views let the reference-numeral 1 designate the platform secured to the end of an ordinary car 2. 3 designates the ordinary draw-head, centrally provided with the ordinary link-recess 7 and a vertical aperture 8 for the ordinary coupling-pin, in case it may be necessary at any time to use the same—as, for instance, when it is desired to couple two cars, one provided with my improvement and the other having only the ordinary draw-head.

To one side of the link-recess 7 in each draw-head is formed another link-recess 4 for the reception of a coupling-bar 12, provided with the hook end 9. This coupling-bar has

an enlarged semi-spherical base 20, fitting within a suitable cylindrical opening, whose walls 22 contract from their full size, as shown at 10, inclosing the base of the coupling-bar and preventing its being moved from its socket in a forward direction.

In the rear of the base 20 of the coupling-bar and within the same cylindrical opening, which is formed sufficiently large for the purpose, is placed an elastic or resilient buffer or cushion 14, formed preferably of india-rubber. This buffer forms a seat for the base of the coupling-bar, and is adjustably secured in place within the socket by means of a cap 15, whose body portion fits nicely within said socket in the rear of and in contact with the resilient or rubber buffer. Cap 15 is provided with an outwardly-projecting flange or rim 23, provided with apertures for the reception of the screw-bolts 16, which pass through said flange and enter corresponding apertures formed in the adjacent parts of the wall 23 of the cylindrical chamber.

A suitable space 24 is left between the projecting rim of the cap and the circular walls of the chamber, in order to afford sufficient room for adjustment should it be necessary at any time to increase the pressure upon the resilient buffer in order to insure the proper performance of its function, which is to maintain the coupling-bar at all times securely in place and extending forward in a direct line, causing it to surely enter the opening 4 within the draw-head. This buffer also permits the coupling-bar to yield to pressure in any direction—that is, up or down or to either side, as may be necessary, this movement being permitted by a space 32, surrounding the shank of the coupling-bar, said space lying between the bar and the contracted portions 10 of the walls of the cylindrical chamber, said adjustment being entirely automatic during natural or abnormal pressure, under whatever circumstances the same may be applied.

The numeral 6 designates the coupling-pin used with my automatic mechanism and occupying normally a vertical position within a suitable aperture 30, formed within the coupling-head. The position of this pin, as shown in the drawings, is considerably to one

side of the passage-way 4, through which the hook end of the coupling-bar enters the draw-head.

The entrance to the aperture 30 for the reception of the pin 6 in the top of the draw-head is circular in form and of sufficient size to permit the pin to pass easily into said aperture. In the bottom horizontal wall of the draw-head the aperture for the reception of pin 6 is formed into a slot 13, extending obliquely backward at an angle of about forty-five degrees. The aperture for pin 6, between its entrance at the top of the draw-head and the slot 13 at the bottom, is so formed as to allow the pin to move freely backward within the slot as the hook end of the coupling-bar engages it in front. This construction is distinctly shown at 31 in Fig. 3.

The operation of my improved automatic coupling will be readily understood. As two cars provided with my improved coupling approach each other, the hook end of each coupling-bar enters the corresponding opening 4 of the draw-head, engages the pin 6, forces it backward within the slot 13, and enters the draw-head. The hook end of the bar passes backward within the opening in the draw-head sufficiently far to leave the path of the pin 6 free and permit said pin to return to its vertical position. The hook ends of the coupling-bars are not intended to engage the rear side 33 of the chamber 34, and the engagement of the bumpers 21 is designed to prevent this result, but at the same time to allow the hook ends of the bars to pass sufficiently backward to allow the pin 6 to return to its vertical position after the entrance of the bar, as before stated. This pin returns to the vertical position by its own gravity, since its top occupies at all times the same position, and when the coupling-bar engages the pin

it is not only forced backward, but its lower portion is elevated; hence as soon as the pin is released from engagement with the bar it falls to its normal position, which is now in front of the hook end of the coupling-bar. The uncoupling of the cars is accomplished by removing or raising the pin in any suitable manner.

Having thus described my invention, what I claim is—

1. An automatic coupling for railway-cars, a coupling-bar having a semi-spherical base retained within a cylindrical chamber formed in the draw-head by the contraction of the walls of the chamber at one extremity, and a resilient buffer 14, placed in the chamber in the rear of the base of the coupling-bar, the buffer being adjustably secured within the chamber by means of a flanged cap 15, engaging the buffer and held in place by screw-bolts or their equivalent, substantially as described.

2. In an automatic coupling for railway-cars, a coupling-head provided with an opening 4 for the reception of the coupling-bar and an aperture for a coupling-pin, said aperture being circular at the top of the draw-head, terminating in a slot 13 at the bottom, said slot extending obliquely backward, the aperture permitting the lower portion of the coupling-pin to pass backward as the coupling-bar enters the opening 4, a coupling-pin 6 and a coupling-bar 12, provided with a hook end for engaging the pin 6, substantially as described.

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

ALBERT B. McCLAVE.

Witnesses:

WM. McCONNELL,

WM. A. WOODWORTH.