G. P. PARTON.

CAR BUFFER.

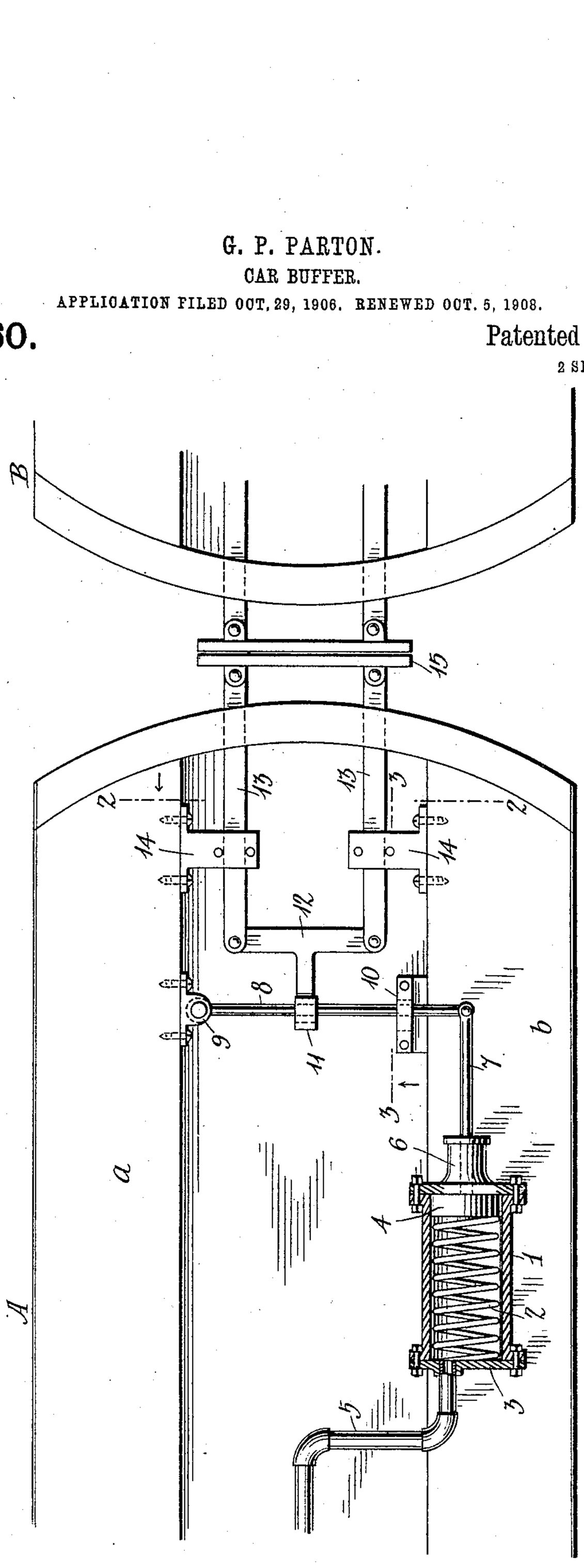
APPLICATION FILED OCT. 29, 1906. RENEWED OCT. 5, 1908.

912,160.

Patented Feb. 9, 1909.

2 SHEETS—SHEET 1.

Fig. 1



Witnesses

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2 SHEETS—SHEET 2.

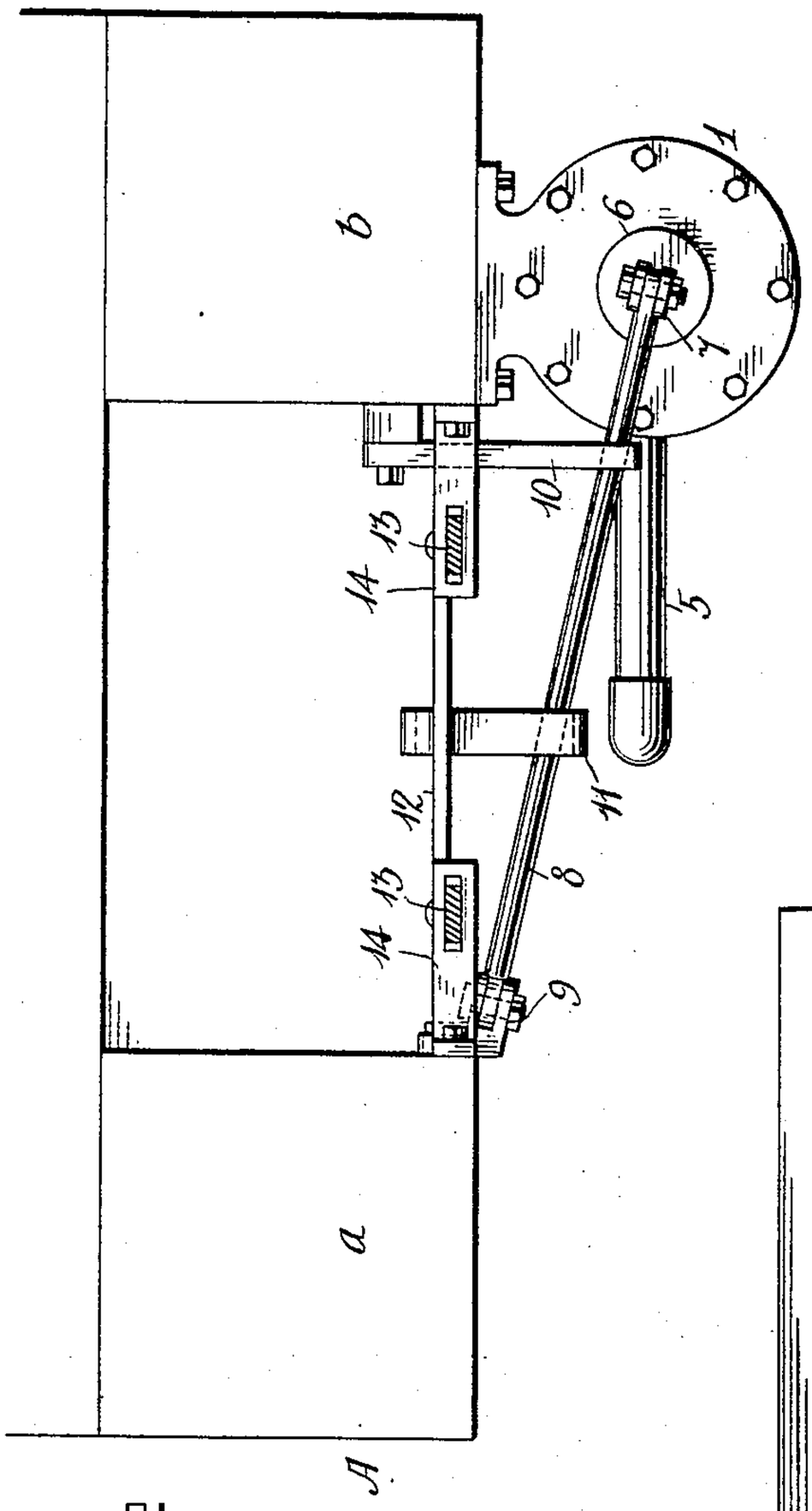

FIG. 2.

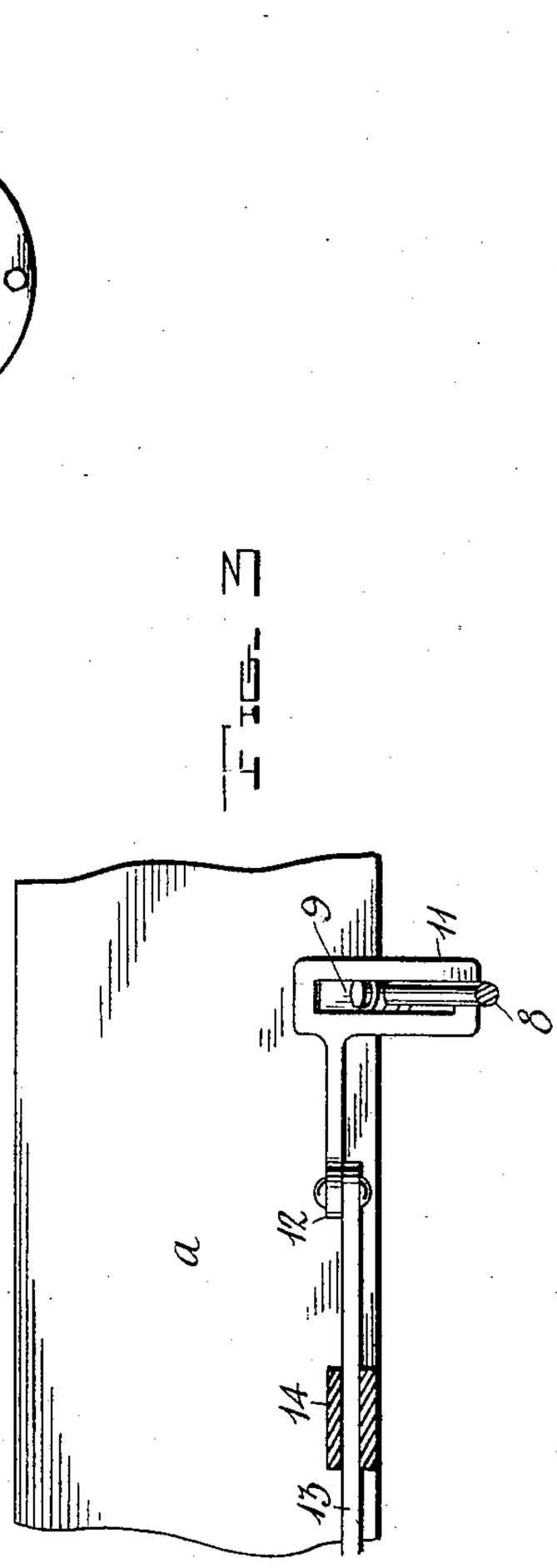

FIG. 3.

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UNITED STATES PATENT OFFICE.

GEORGE P. PARTON, OF WASHINGTON, DISTRICT OF COLUMBIA.

CAR-BUFFER.

No. 912,160. Specification of Letters Patent. Patented Feb. 9, 1909.

Application filed October 29, 1906, Serial No. 341,150. Renewed October 5, 1908. Serial No. 456,221.

To all whom it may concern:

Be it known that I, GEORGE P. PARTON, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Car-Buffers; 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 car-buffers.

The object of the invention is in a simple and positive manner to prevent rebounds and to absorb jars and vibrations resulting from the impact between the buffers of two or more cars when the brakes are applied and coincidently therewith, whereby the discomfort and possible danger of injury to passengers, arising therefrom, is obviated and damage to the rolling stock is prevented.

With the above and other objects in view, as will appear as the nature of the invention is better understood, the same consists, generally stating, in the employment of a novel form of combined spring and compressed-air cushioning-device employed in conjunction with the buffer, and in the arrangement and combination of parts of such device, as will be hereinafter fully described and claimed.

In the accompanying drawings forming a part of this specification, and in which like characters of reference indicate corresponding parts,—Figure 1 is a plan view, partly in section, of a portion of the bottom of two cars looking upward, exhibiting the improvements of the present invention applied to one of them, the couplers being omitted for sake of clearness of illustration; Fig. 2 is a transverse sectional view, taken on the line 2—2 of Fig. 1, and looking in the direction of the arrow thereon; and Fig. 3 is a longitudinal sectional view, taken on the line 3—3 of Fig. 1, and looking in the direction of the arrow. Figs. 2 and 3 show the parts as they would appear when looking at the car when in its normal position.

Referring to the drawings, A and B designate generally the front and rear portions of two cars, and *a* and *b* sill-beams thereof, and as these parts may be of the usual or any preferred construction, detailed description thereof is deemed unnecessary. It is to be understood that the appliance hereinafter described is to be duplicated at each end of each car, so that a description of one buffer and its coacting mechanisms will serve for all.

Secured, in this instance, to the sill-beam *b* is a cylinder 1 constructed to hold air under heavy pressure, and in which is housed a strong coiled buffer cushioning spring 2 that bears at one end against the cylinder head 3 and at its other end against a piston head 4 that fits the cylinder with accuracy in order to prevent the passage past it of the compressed air, which latter is supplied to the cylinder through a pipe 5 that connects with the usual compressed air cylinder (not shown) in the air brake system.

The cylinder is provided with a stuffing-box 6 in which works a piston-rod 7, one end of which is secured to the piston-head and the other end pivotally connected with one terminal of a lever 8, the other terminal of which is pivotally-connected with a bracket 9 bolted, in this instance, to the sill-beam *a*. To hold the lever against rocking and also to assist the piston-rod in moving in a right line, a keeper or guide 10 is employed that is secured to any convenient part of the car body that will best be adapted to secure the object sought.

The lever projects through an approximately rectangular yoke 11 carried by a cross-head 12 disposed transversely of the car body, the slot in the yoke, as clearly shown in Fig. 2, being of sufficient length to prevent its end walls from contacting with the lever when the car body rocks in running, and of sufficient width to obviate binding on the lever under any conditions. To the terminals of the cross-head are pivotally-connected the inner ends of a pair of buffer-arms 13 that work in guides 14 secured to the opposed faces of the sill-beams, the outer ends of the arms being pivotally-connected, in any preferred manner, with a buffer-head 15, which is herein shown as flat, but this is not essential as it may be of any other preferred contour and still be within the scope of the invention. By pivotally-connecting the cross-head, buffer-arms and buffer-head, the latter will be permitted to assume the requisite angular positions arising from different curves in the track so as to secure at all times a positive contact between two opposing buffers.

In operation, when the engineer or motorman operates the brake valve lever to apply

the brakes, compressed air enters the cylinder 1 and supplements the spring 2 in absorbing the impact between the buffers, thereby preventing jars, shocks and rebounds, such as usually result when brakes are applied. It will be understood that air is not supplied to the cylinder in coupling the cars as the spring 2 under such conditions is relied upon to absorb shocks.

It will be seen from the foregoing description that although the improvements herein defined are simple in character, that they combine in a practical and feasible manner all of the elements necessary to produce the results desired and further that by the manner of constructing and assembling the parts liability of danger or breakage in use is reduced to a minimum.

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

1. The combination with a buffer head, of a cylinder, a piston working therein, a pivoted lever connecting with the piston, a yoke through which the lever projects, a buffer head operatively-connected with the yoke, a spring in the cylinder coacting with the piston to absorb jars in coupling, and means for supplying fluid under pressure to the cylinder to assist the spring in absorbing shocks and jars in braking.

2. The combination with a buffer head, of buffer arms pivotally-connected therewith, a yoke carrying cross head pivotally-connected with the rear end of the arms, a lever projecting through the yoke, and a combined spring and fluid actuated piston connected with the lever.

3. The combination with a buffer head, of buffer arms having their forward ends pivotally-connected thereto, guides through which the rear portions of the arms project, a cross-head pivotally-connected with the rear ends of the arms, an approximately rectangular yoke carried by the cross head, a lever projecting through the yoke and having one end pivotally connected with the car body, and a combined spring and fluid pressed piston connected with the lever.

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

GEORGE P. PARTON.

Witnesses:

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