

J. O. BOHANNON & D. P. PAGE.
 EMERGENCY RELEASE VALVE.
 APPLICATION FILED JULY 31, 1912.

1,065,659.

Patented June 24, 1913.

2 SHEETS-SHEET 1.

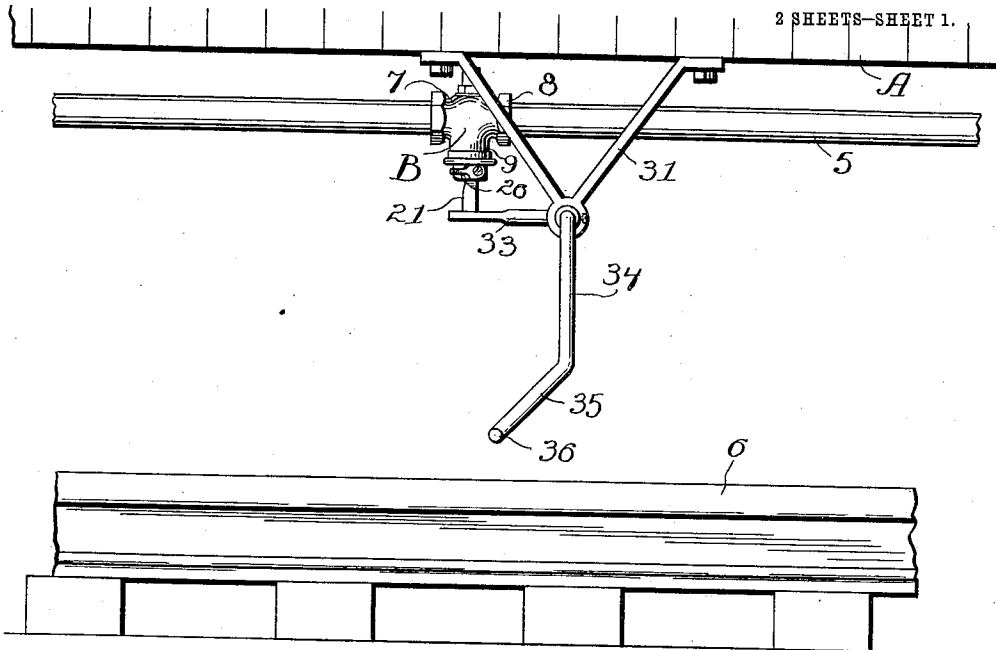


Fig. 1.

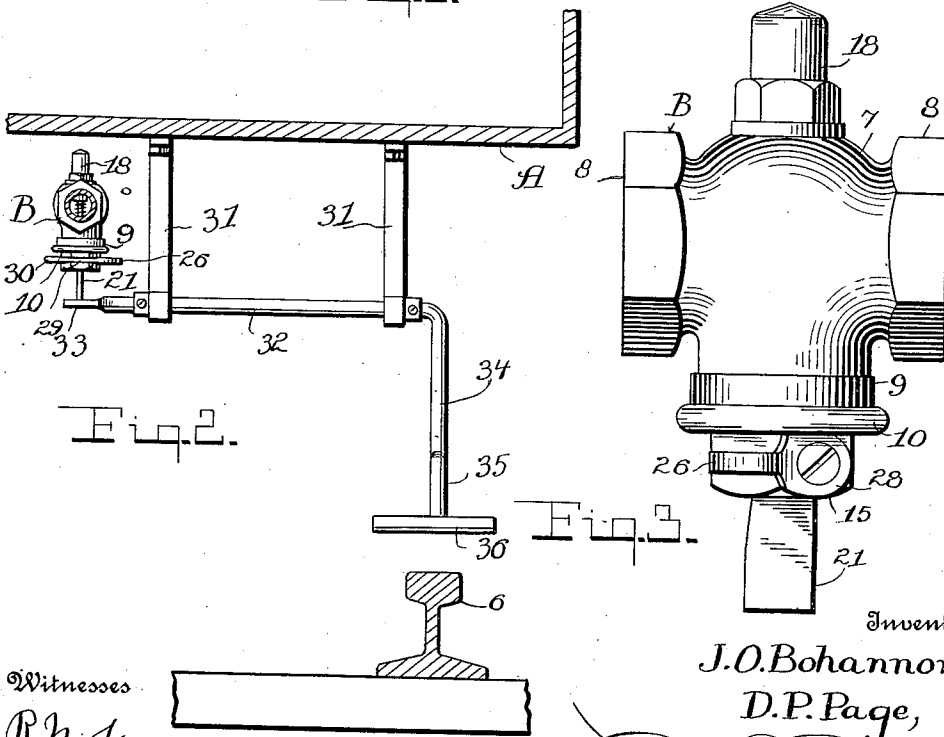


Fig. 2.

Fig. 3.

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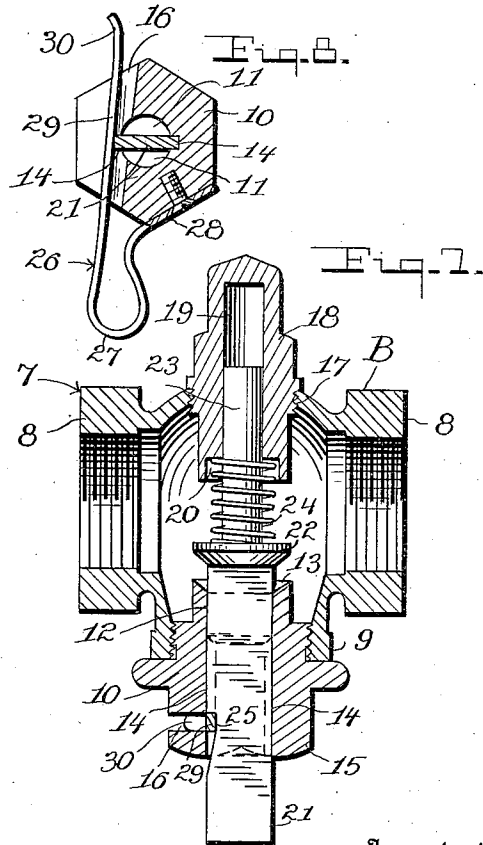
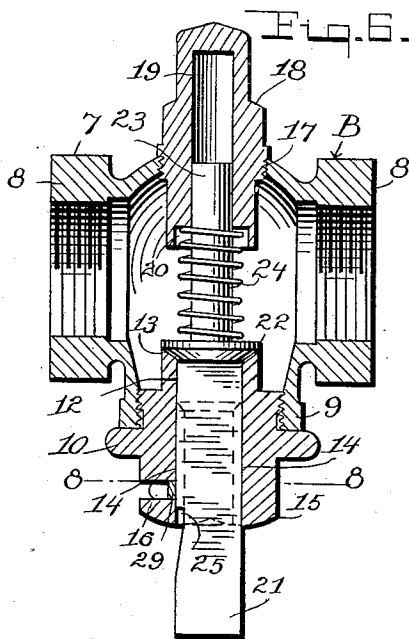
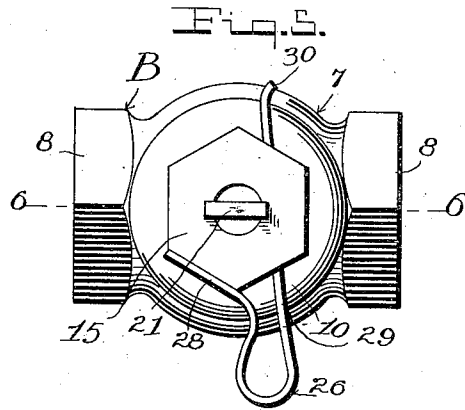
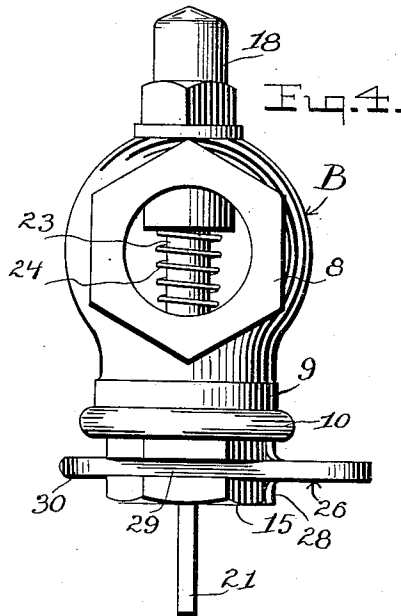
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2 SHEETS-SHEET 2.



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UNITED STATES PATENT OFFICE.

JOHN O. BOHANNON AND DUEMONT P. PAGE, OF BIRMINGHAM, ALABAMA.

EMERGENCY RELEASE-VALVE.

1,065,659.

Specification of Letters Patent.

Patented June 24, 1913.

Application filed July 31, 1912. Serial No. 712,480.

To all whom it may concern:

Be it known that we, JOHN O. BOHANNON and DUEMONT P. PAGE, citizens of the United States, residing at Birmingham, in the county of Jefferson, State of Alabama, have invented certain new and useful Improvements in Emergency Release-Valves; and we 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.

This invention relates to improvements in emergency release valves adapted for use in connection with air brake systems.

The principal object of the invention is to provide an emergency release valve in a train line which is adapted to be automatically opened immediately upon the train leaving its tracks whereby a reduction of pressure in a train line will result in the triple valve being operated and consequently applying the brakes.

Another object of the invention is to provide a valve for the purpose described which is provided with a novel means for retaining said valve in its open position so as to positively reduce the air pressure in the train line.

A further object of the invention is to provide a novel actuating mechanism for the valve.

A still further object of the invention is to provide an emergency release valve which is composed of a minimum number of parts, is therefore simple in construction, and is cheap to manufacture.

With these and other objects in view, the invention consists in the construction and novel combination of parts hereinafter fully described, illustrated in the accompanying drawings and pointed out in the claim here-to appended; it being understood that various changes in the form, proportion, size and minor details of construction within the scope of the claim may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings: Figure 1 is a detail side elevation of a car showing the application of our invention, Fig. 2 is a transverse section therethrough, the invention being shown in elevation, Fig. 3 is an enlarged side elevation of the valve, Fig. 4 is an enlarged end elevation of the valve, Fig. 5 is a bottom

plan view thereof, Fig. 6 is a vertical sectional view of the valve taken on the line 6—6 of Fig. 5 showing the valve closed, Fig. 7 is a similar view but showing the valve retained in its open position, and Fig. 8 is a detail transverse sectional view taken on the line 8—8 of Fig. 6, parts thereof being shown in elevation.

Like reference numerals designate corresponding parts in all the figures of the drawings.

Referring to the drawings, A designates a car body of any suitable type which is equipped with the usual train line 5, and 6 indicates an ordinary rail upon which the car is mounted.

Located in the train line 5 is my improved valve, which is designated as a whole by the reference letter B. This valve includes a T-casing 7 which includes lateral arms 8—8 which are connected to the train line 5 and a depending vertical leg 9 which is interiorly threaded for engagement with a closure plug 10. This plug is formed with a longitudinal bore 11 and a counterbore 12, the latter being formed in the upper end of the plug and having its upper edge beveled to form a valve seat 13. The plug 10 on opposite sides of the bore 11 is formed with diametrically opposed longitudinal slots 14—14. The lower end of the plug is of angular formation to form a nut 15 by means of which the plug may be readily attached to or detached from the casing. Formed in the nut is a lateral slot 16, and this slot intersects one of the slots 14 and is disposed at substantially right angles thereto.

A threaded opening 17 is formed in the upper end of the casing 7, and engageable in this opening is a cap nut 18, which is formed with an outwardly extending bore 19 and counterbore 20, the latter forming a seat.

Slidably mounted within the longitudinal slots 14—14 is a rectangular valve stem 21, which carries at its upper end a valve 22 that is normally engaged with the valve seat 13. Extending upwardly from the valve and in alinement with the stem 21 is a guide rod 23, the upper end thereof operating in the bore 19 of the cap nut 18. A coil spring 24 is disposed around the rod and has its lower end seated upon the valve 22 and its upper end disposed within the seat formed by the counterbore 20. This spring tends to yieldably retain the valve 22 upon

its seat 13. That edge of the valve stem 21 which operates through the lateral slot 16 is centrally formed with a notch 25.

A lock for holding the valve 22 in its elevated or inoperative position, is designated as a whole by the reference numeral 26. This lock is formed from a single length of spring metal, which is bent intermediate its ends, as at 27, to form an attaching arm 28, which is secured to the outer face of the nut 15 by a screw or other suitable fastening means, and a yieldable finger 29 which is disposed within the lateral slot 16 of the nut and has its end extending therebeyond to form a finger-piece 30. The finger 29 bears against the valve stem 21, and when said stem is elevated to unseat the valve, this finger will automatically engage in the notch 25, and thereby lock the stem in its elevated position against the tension of the spring 24.

In order to elevate the valve stem and thereby reduce the pressure in the train line 5, the following mechanism is employed: A pair of spaced brackets 31—31 are connected to the bottom of the car A and at a point slightly in advance of the valve B, as is clearly shown in Fig. 1 of the drawings. These brackets are arranged transversely of the car, and rotatably supported in these brackets is a rock shaft 32 which has its inner end bent rearwardly to form a crank finger 33 that is disposed directly below the valve stem 21. The outer end of the shaft 32 is bent downwardly at a point directly above the rail 6 and at right angles to the crank finger 33 to form a striker arm 34. The lower end of this arm is rearwardly bent, as at 35, and terminates at its end in a cross head 36, said cross head being normally disposed above the rail 6 to have a sufficient clearance therewith.

In operation, when the car leaves the

track, the cross head 36 will of necessity engage with the rail 6, and rock the shaft 32, thereby elevating the crank finger 33 which in turn will raise the valve stem 21 and unseat the valve 20. As the stem is thus raised, the finger 29 of the lock 26 will automatically engage in the notch 25 of said stem, and retain said stem in its elevated position against the tension of the spring 24. As a result, the air pressure in the train line 5 will be immediately released and the valve will be retained in its open position so as to cause the triple valve (not shown) to operate, and thereby effect the application of the brakes.

When it is desired to seat the valve 22, the finger 29 is withdrawn from the notch 25 by means of the finger piece 30 and immediately the spring 24 will force the valve 22 to its normal or closed position.

What is claimed is:

A release valve mechanism comprising in combination, a casing having a plug detachably seated in the bottom thereof, said plug being formed with a longitudinal bore having a valve seat formed at its upper end, a spring actuated valve engageable with the seat and having a valve stem extending downwardly through the bore of the plug, said stem being centrally formed with a notch, said plug being also formed with a lateral slot communicating with said bore, and a spring finger carried by the plug and operating in the lateral slot for engagement with the notch of the stem to releasably hold said valve in its unseated position.

In testimony whereof, we affix our signatures, in presence of two witnesses.

JOHN O. BOHANNON.
DUEMONT P. PAGE.

Witnesses:

W. S. ROUNTREE,
F. W. McDONALD.