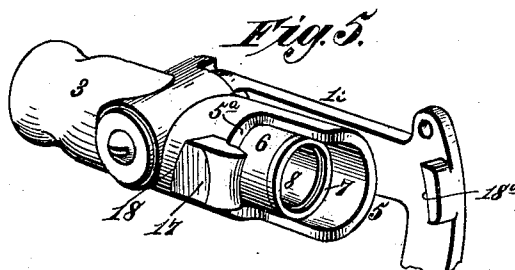
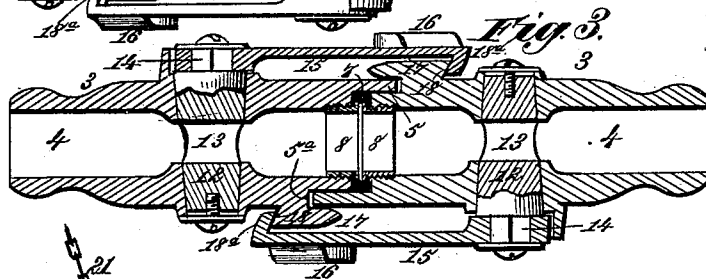
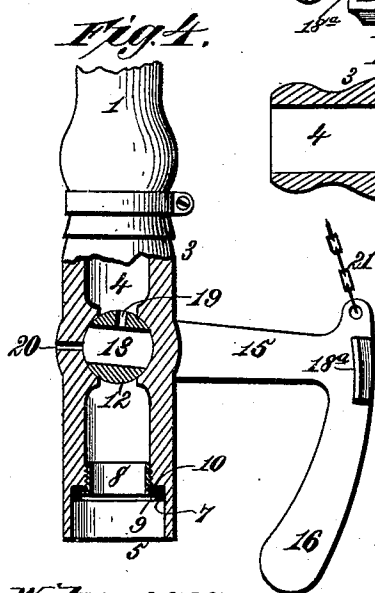
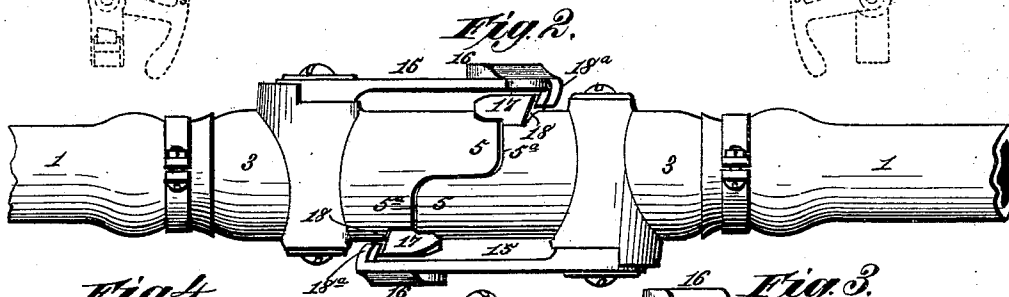
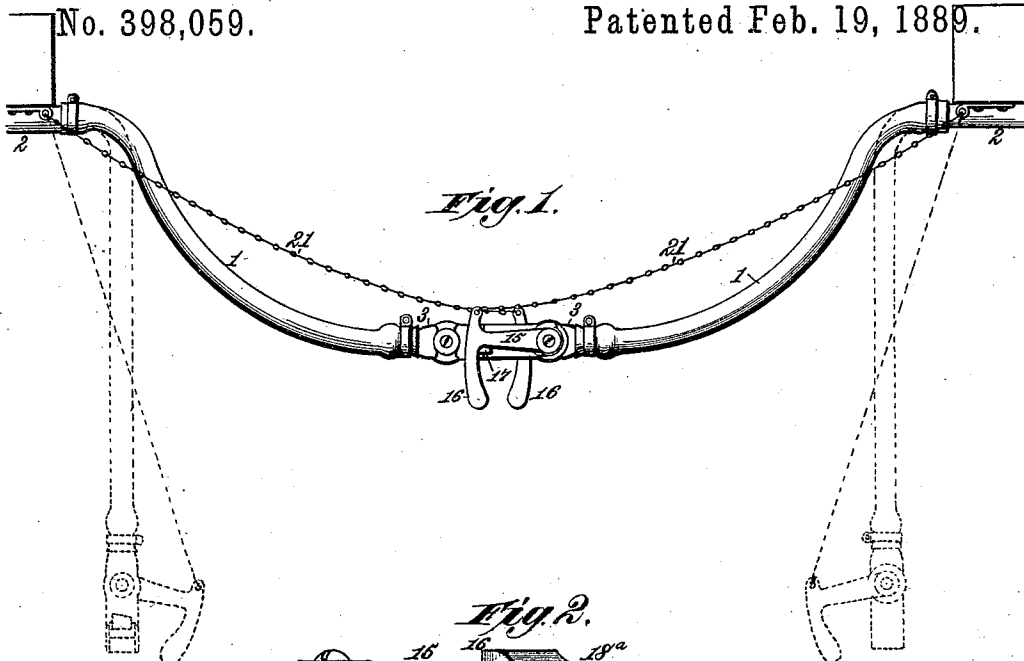


(No Model.)

E. A. LELAND.
BRAKE HOSE COUPLING.

No. 398,059.

Patented Feb. 19, 1889.



Witnesses.
Robert G. Watt.
J. A. Rutherford.

Inventor:
Edwin A. Leland.
By *James L. Norris.*
Atty.

UNITED STATES PATENT OFFICE.

EDWIN A. LELAND, OF BROOKLYN, NEW YORK, ASSIGNOR TO LEONARD RICHARDSON, OF SAME PLACE.

BRAKE-HOSE COUPLING.

SPECIFICATION forming part of Letters Patent No. 398,059, dated February 19, 1889.

Application filed October 18, 1888. Serial No. 288,474. (No model.)

To all whom it may concern:

Be it known that I, EDWIN A. LELAND, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented new and useful Improvements in Brake-Hose Couplings, of which the following is a specification.

This invention relates to pipe or hose for conducting air or steam to operate the brakes of railway-cars; and the invention has for its object to provide novel means for detachably connecting the pipe or hose sections between and automatically unlock the sections and close the passage of air or steam therethrough when separated.

The object of my invention I accomplish by the features of construction and combination of devices hereinafter described and claimed, reference being made to the accompanying drawings, in which—

Figure 1 is a view in side elevation of the coupling as it appears in use. Fig. 2 is a plan view of the coupling enlarged. Fig. 3 is a longitudinal central section of Fig. 2. Fig. 4 is a detail section of one member of the coupling, showing the valve construction and the provision for the escape of the water of condensation. Fig. 5 is a perspective view of one member of the coupling.

In the drawings, the reference-numeral 1 denotes the hose connected to the steam or air pipe ordinarily employed in the Westinghouse and other railway brakes. This hose is flexible, and is attached to the steam-pipe 2 beneath the car at each end of the latter. To the depending end of the hose 1 is attached a coupling, 3, having a steam or air passage, 4. At its end this coupling is so formed as to present a semi-cylindrical outer shell, 5, which partly covers or incloses an interior cylindrical section, 6, having its open end located part way between the extremity of the semi-cylindrical portion 5 and the shoulder 5^a, formed by the cutting away of the outer shell to leave the half-shell 5 and expose the inner cylindrical part, 6. The other section of the coupling is the exact counterpart of that described, having a similar half-shell, 5, and a like inner cylindrical section, 6. Upon the end of the interior section, 6, is seated a packing-ring, 7, having an interior countersink,

and through the packing is inserted an open thimble, 8, having a collar, 9, which seats upon the flange 10 of the packing-ring. The thimble 8 is screwed into the open end of the cylindrical section 6, drawing the packing-ring into place and holding it. A similar construction is adopted for the other coupling-section.

Within each member of the coupling is seated a plug-valve, 12, having an opening, 13. Upon the squared end of the valve-stem 14 is mounted a lever, 15, by which the valve may be operated to open and close the steam or air passage 4. These levers are preferably provided with weights 16 cast upon their ends and depending therefrom, as shown in Fig. 1.

Upon each member of the coupling is formed or mounted a lug or boss, 17, having one end projecting over the shoulder 5^a and toward the open end of the coupling. This end of the lug is beveled off in such manner as to afford a guide to the engaging members of the coupling in uniting the parts. Upon its other or rearward end the lug is curved to present a cam-surface, 18, to a cam, 18^a, mounted on the valve-lever 15, and this cam-surface is in cross-section inwardly inclined at an angle to the axis of the coupling to receive the correspondingly-inclined surface of the cam 18^a, as shown in Fig. 3, whereby the engagement of the parts and all strain thereon will tend to draw them more perfectly into engagement. The relative curve of these engaging surfaces is such also that as the levers 15 are turned into parallelism with the coupling—or nearly so—the cam projections 18^a will draw upon the lugs 17 and force the open ends of the cylindrical sections 6 closely together. The plug-valve 12 may be provided with a small aperture, 19, leading into the passage 13, and in the wall of the coupling, through that portion in which the valve is seated, is formed a minute opening, 20. When the valve is turned to close the steam-exit, there is formed a communication through the aperture 19, valve-opening 13, and passage 20, whereby the water of condensation may pass from the pipes. While I regard this feature as desirable, I do not consider it an essential part of my invention.

In use I connect light chains, wires, or cords

21 to the ends of the levers, using for this purpose the projecting ends of the weights 16. The chains are connected to the platforms of their respective cars, their length being such as to swing the levers as the cars are separated and as the flexible hose-pipes drop to a vertical position, as shown in Fig. 1.

The coupling is easily and instantaneously united by bringing the two members together, the end of each semi-cylindrical shell being guided by the lug 17 on the other part of the coupling, and thus easily brought against the shoulder 5^a. The construction is such that under ordinary conditions, and while the cars are not in motion, the parts will remain united without locking the levers. The operator is thus enabled to use both hands, if necessary, in securing the union.

In separating the carriages the latter are merely uncoupled and drawn apart, whereupon the tension of the chains 21 releases both the locking-levers from the lugs 17, after which the members of the coupling are easily drawn asunder. As the levers are turned by the draft upon the chains, they close the valves 15, thereby shutting off egress of steam or air from the pipes. Should the coupling separate before the valves are completely closed, the gravity of the separate members will produce sufficient tension on the chains 21 to swing the levers far enough to fully close the valves as the hose-pipes 1 drop to a vertical position, as shown in Fig. 1.

By this invention I provide simple and automatic means whereby the brake-couplings

are disconnected by merely pulling the cars apart, and the steam or air passages simultaneously closed. I also provide a coupling in which an open continuous passage is afforded for the steam or air, the parts being capable of attachment without special knowledge or experience and in an instant of time.

What I claim is—

In a brake-hose coupling, two separable and similar members, each having a semi-cylindrical exterior shell, 5, inclosing a cylindrical section, 6, having its open end part way between the extremity of said shell and a shoulder, 5^a, formed by removing the exterior to leave the half-shell, each member being also provided with a lug, 17, having a beveled end extending over the shoulder 5^a and a cam-surface, 18, plug-valves 12, opening and closing the air and steam passages in the parts, levers 15, mounted on the stems of said valves 12 and having weights 16 and cam projections 18^a, and chains or similar connections 21, uniting the free ends of said levers to the car-platforms, said chains being of such length as to draw taut as the cars separate before the hose-pipes are drawn straight, the whole being constructed and combined substantially as described.

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

EDWIN A. LELAND.

Witnesses:

CHAS. L. RICHARDSON,
LEONARD B. CASSIDY.