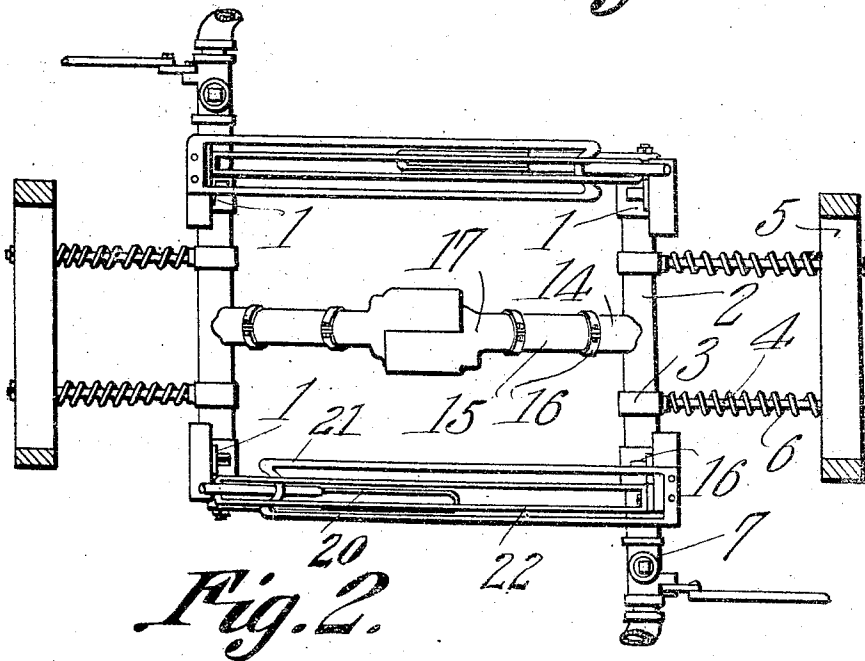
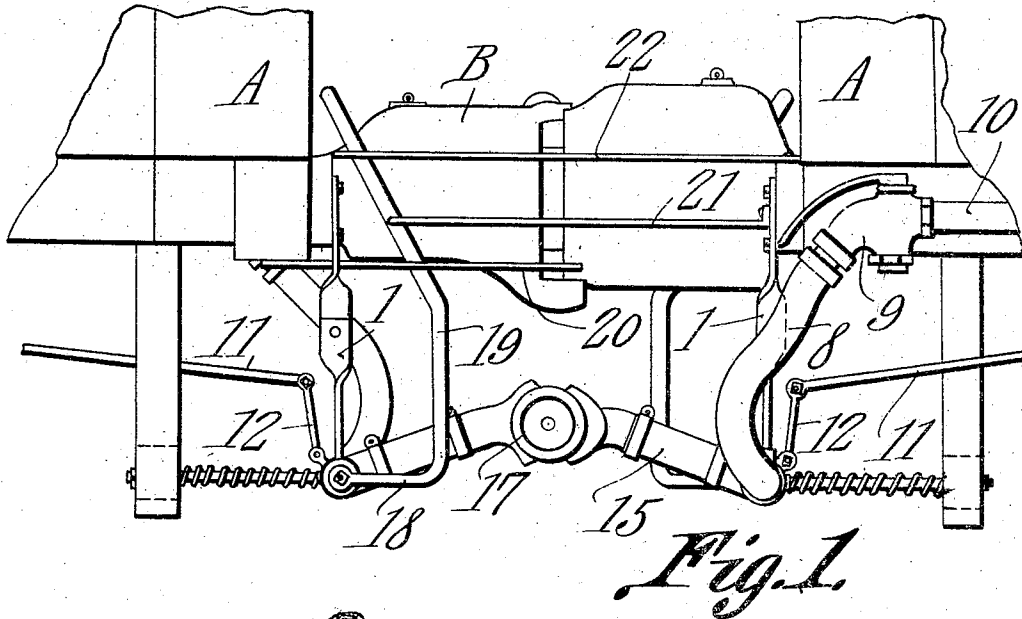


V. P. TAYLOR.  
 COUPLING FOR AIR BRAKE SYSTEMS.  
 APPLICATION FILED FEB. 28, 1910.

968,094.

Patented Aug. 23, 1910.

2 SHEETS—SHEET 1.



Witnesses

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By

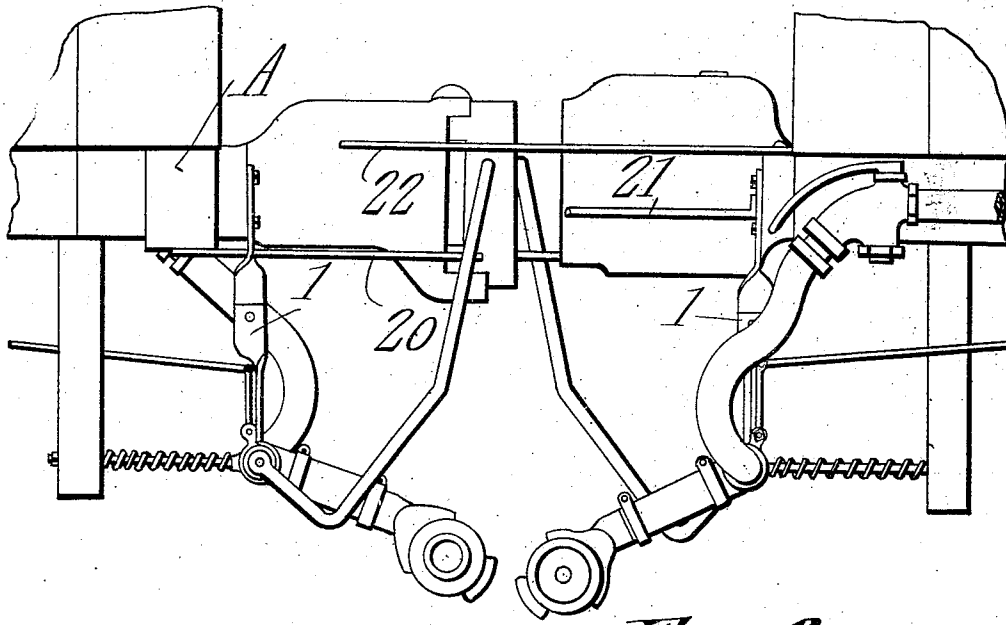
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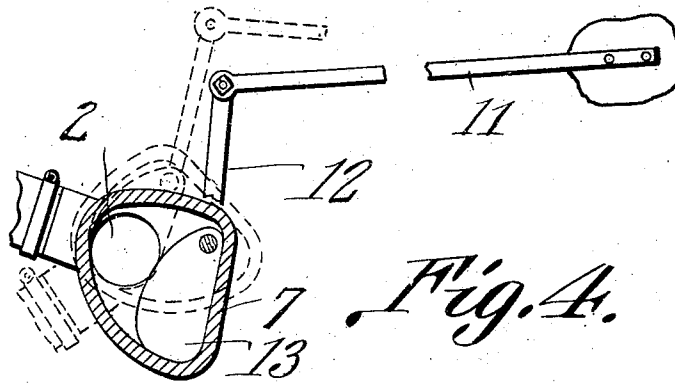
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2 SHEETS—SHEET 2.



*Fig. 3.*



*Fig. 4.*

Witnesses

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# UNITED STATES PATENT OFFICE.

VIRGIAL P. TAYLOR, OF RICHTON, MISSISSIPPI, ASSIGNOR OF ONE-HALF TO WILLIAM H. CHAMBLISS, OF RICHTON, MISSISSIPPI.

## COUPLING FOR AIR-BRAKE SYSTEMS.

963,094.

Specification of Letters Patent. Patented Aug. 23, 1910.

Application filed February 28, 1910. Serial No. 546,383.

*To all whom it may concern:*

Be it known that I, VIRGIAL P. TAYLOR, a citizen of the United States, residing at Richton, in the county of Perry and State of Mississippi, have invented a new and useful Coupling for Air-Brake Systems, of which the following is a specification.

This invention relates to couplers for use in connection with the pipes of air brake systems and its object is to provide a device of this character which is simple in construction and the members of which are designed to automatically couple when the cars are coupled and to uncouple when the cars are separated.

A further object is to provide a coupler of this type which utilizes all of the parts of an ordinary airbrake coupler, with the addition of certain parts designed to make the coupling and uncoupling operation automatic.

With these and other objects in view the invention consists of certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claims.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings:—Figure 1 is a side elevation of the coupled end portions of two cars and showing the present improvements applied thereto, the air pipe couplers being shown in engagement with each other. Fig. 2 is a plan view of the coupler shown in Fig. 1, the hangers being shown in section. Fig. 3 is a view similar to Fig. 1 but showing the members of the coupler disconnected. Fig. 4 is an enlarged view partly in section and partly in elevation showing the automatic cut-off valve.

Referring to the figures by characters of reference A designates a car structure having hangers 1 depending from each end thereof, the hangers at each end constituting supports for a pipe 2 mounted to rotate therein. Rings 3 are loosely mounted on each of the pipes 2 and each of these rings has a rod 4 secured to it and extending backward therefrom, the rod being loosely mounted within the bottom portion of a hanger 5. A spring 6 is coiled about each of the rods 4 and bears at its ends against the hanger 5 and the ring 3 respectively so as to hold the hangers 1 normally in a predetermined position. A valve casing 7 is secured to one end

of the pipe 2 and is connected, by means of a hose section 8 of flexible material, to the ordinary valve 9 located at the end of the air pipe 10 mounted on the car structure A. A rod 11 is secured to the car structure and supports, at one end, a stem 12 which is secured to and moves with a valve 13 designed to swing within the casing 7 and to cut off communication with the pipe 2 when said pipe is turned to a predetermined position.

A branch pipe 14 extends from the pipe 2 at the center thereof and directly under the drawheads B of the car structures, this branch pipe being perpendicular to the pipe 2 and having a short flexible hose 15 secured to it in any preferred manner as by means of a clamping band 16. The hose section 15 serves as a connection between the branch pipe 14 and the coupler head 17 which is of the ordinary construction. The short section 15 of hose does not destroy, to an objectionable extent, the rigidity of the coupler head 17 relative to the pipe 2 but, at the same time, permits a slight flexing of the parts so as to allow for any up and down or side movement thereof due to the changing relations of the two cars when the parts are coupled.

That end of the pipe 2 farthest removed from the valve casing 7, is provided with an arm 18 extending forward from the end of the car and merging into an upwardly and rearwardly extending lever 19. A guide loop 20 is secured to the car structure and this lever projects through it and is designed to be limited in its movement thereby, it being understood that, when the parts are uncoupled, this lever 19 is free to swing forward against the outer end of the guide loop 20 and at the same time permit the pipe 2 to partly rotate and to thus swing the coupling member 17 downwardly into the position shown in Fig. 3. Secured to the opposed car structure A and in the path of the lever 19, is an elongated loop 21 constituting means for setting the lever when the cars move toward each other, this setting of the lever causing the coupling member to move upwardly. Another loop 22 is secured directly above the loop 21 and to the same structure, this upper loop being so located that when the lever 19 is forced upwardly by the loop 21, its upper end will swing into the upper loop 22. It is of course to be understood that the adjoining

ends of the two meeting cars are provided with the same parts which have already been described, and that both ends of a car are also similarly provided.

5 The normal positions of the levers 19 are at the outer ends of the loops 20 and resting thereagainst, the coupling member 17 being thus held downwardly extended as shown in Fig. 3. With the parts thus located, the  
10 valve 13 in each casing 7 is in closed position.

When two cars are brought together and while the draw heads thereof are coupling, each of the loops 21 pushes against the opposed lever 19 and swings it backward  
15 against its car structure A. The two pipes 2 will thus be simultaneously rotated so as to swing the coupler members 17 upwardly and as these members are located directly at the centers of the car ends, it will be  
20 apparent that they will be brought into engagement with each other and will interlock as they are raised. Moreover the rotation of the pipes 2 causes the valves 13 to open the pipes 2 and establish communication between them and the air pipes 10. As each  
25 lever 19 moves upwardly, its upper end passes into the loop 22 of the opposed car structure. It will be apparent therefore that the two members 17 of the air brake coupling will be brought together and  
30 locked simultaneously with the coupling of the drawheads B.

When the cars are uncoupled and move  
35 apart, the upper loops 22 pull upon the levers 19 and move them toward the outer ends of the guide loops 20. The pipes 2 are thus forcibly rotated so as to swing the coupling members 17 downwardly and disengage them and as the pipes 2 thus rotate they are  
40 closed by the valves 13. The parts are thus ready to be again coupled together when two cars are coupled and in the manner heretofore set forth.

45 By utilizing a coupler such as has been described it becomes unnecessary for the person to reach between the cars for the purpose of fastening the parts together. Attention is directed to the fact that the coupler members 17 and their connections 15 are  
50 located directly under the drawheads B and are protected thereby from any injury by any objects which might fall over the ends of the cars. It will be further noted that the coupler which has been described utilizes  
55 all parts of the ordinary forms of air brake couplings, the same employing in addition thereto, the revoluble pipe 2, the lever 19, and the parts necessary to support the same and to operate them. The cost of installing  
60 this form of coupler is therefore materially lessened.

It is to be understood of course that various changes may be made in the construction  
65 and arrangement of the parts without de-

parting from the spirit or sacrificing any of the advantages of the invention as defined in the appended claims.

What is claimed is:—

1. An air brake coupling including a pipe  
70 mounted for rotation, means for supporting the same from a car, a coupling member movable with said pipe, and car actuated means for rotating the pipe and elevating the coupler member. 75

2. An air brake coupling including a pipe  
80 mounted for rotation, means for supporting the same from a car structure, a coupling member movable with and communicating with the interior of the said pipe, car operated means for actuating the pipe to elevate the coupler member, and a valve controlled by said pipe. 85

3. An air brake coupling including a pipe  
90 mounted for rotation, means for supporting the same from a car, a coupling member movable with and extending radially from said pipe, car operated means for actuating the pipe to elevate or to lower the coupling member, and means for automatically cutting off and establishing communication through the pipes. 95

4. An air brake coupling including a pipe  
100 mounted for rotation, a coupling member communicating therewith and extending therefrom, said member and the pipe being movable together, a main pipe, car operated means for rotating the first mentioned pipe and shifting the coupling member, and means operated by the movement of said  
105 pipe for controlling communication with the main pipe. 100

5. An air brake coupling including a pipe  
110 mounted for rotation, resilient supports therefor, a coupling member movable with and extending from said pipe, said member communicating with the interior of the pipe, a main pipe, car operated means for moving the pipe in one direction to elevate the coupling member and establish communication  
115 with the main pipe, and car operated means for moving the pipe in the opposite direction to lower the coupling member and close communication with the main pipe. 110

6. An air brake coupling including a pipe  
120 mounted for rotation, a coupling member communicating therewith and extending therefrom, said member and pipe being movable together, a lever fixedly connected to and extending from the pipe, means upon the car for limiting the movement of the lever, means carried by a car for shifting the lever to elevate the coupling member, and means operated by said car for shifting the lever to lower the coupling member. 125

7. An air brake coupling including a  
130 coupling member mounted for vertical swinging movement, a main pipe, car operated means above and separate from said member for swinging the coupling member 130

upwardly into coupled position, and means for automatically establishing communication between the coupling member and the main pipe during the movement of said coupling member.

8. An air brake coupling including a coupling member mounted for swinging movement in a vertical plane, a main pipe, means under the control of the coupling member for establishing and for cutting off communication with the main pipe, car operated means above and separate from said member for swinging the coupling member upwardly into coupled position, and car operated means above and separate from said member for swinging the coupling member downwardly into uncoupled position.

9. An air brake coupling including a coupling member mounted for swinging movement in a vertical plane, a main pipe, means under the control of said member for establishing communication with the main pipe and for cutting off communication with said pipe, car operated means for elevating the coupling member when two cars are brought together, and car operated means for lowering the coupling member when two cars are moved apart.

10. An air brake coupling including a coupling member mounted for swinging movement in a vertical plane, means for supporting the same from a car, a lever movable with said member, a guide upon the car and in which the lever is movably mounted, means upon an opposed car bearing against the lever to shift it into a predetermined position and elevate the coupling member, and means upon said opposed car for receiving the shifted lever to return it to its initial position when the cars are moved apart.

11. An air brake coupling including a coupling member mounted for swinging movement in a vertical plane, means for supporting the same from a car, a lever movable with said coupling member, a lever guide extending from the car, means upon an opposed car for shifting the lever within its guide when the cars move toward each

other to elevate the coupling member, means upon said opposed car for receiving the said lever, said means operating to return the lever and coupling member to their initial positions when the cars separate.

12. An air brake coupling including a coupling member mounted for swinging movement in a vertical plane, means for supporting the same from a car, a main pipe, means under the control of the coupling member for establishing and for cutting off communication with the main pipe, an element movable with said member, a guide therefor and upon the car, means upon an opposed car for shifting the element to elevate the coupling member when the cars move toward each other, and means upon said opposed car for receiving the shifted element, said means operating to move said element and coupling member to their initial positions when the cars move apart.

13. An air brake coupling consisting of opposed coupling members mounted for swinging movement within a vertical plane, an upwardly extending element movable with each of said coupling members, means for limiting the movement of each element in one direction, means upon each car for bearing against the opposed element to raise its coupling member, said members when raised being adapted to lock and interlock, and means upon each car for receiving the shifted element and adapted to return said element and the coupling member to their initial positions when the cars are moved apart.

14. An air brake coupling including a coupling member mounted for swinging movement, and car actuated means separate from said member for swinging said member upwardly into coupled position.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

VIRGIAL P. TAYLOR.

Witnesses:

HENRY BROWN,  
F. F. MYERS.