

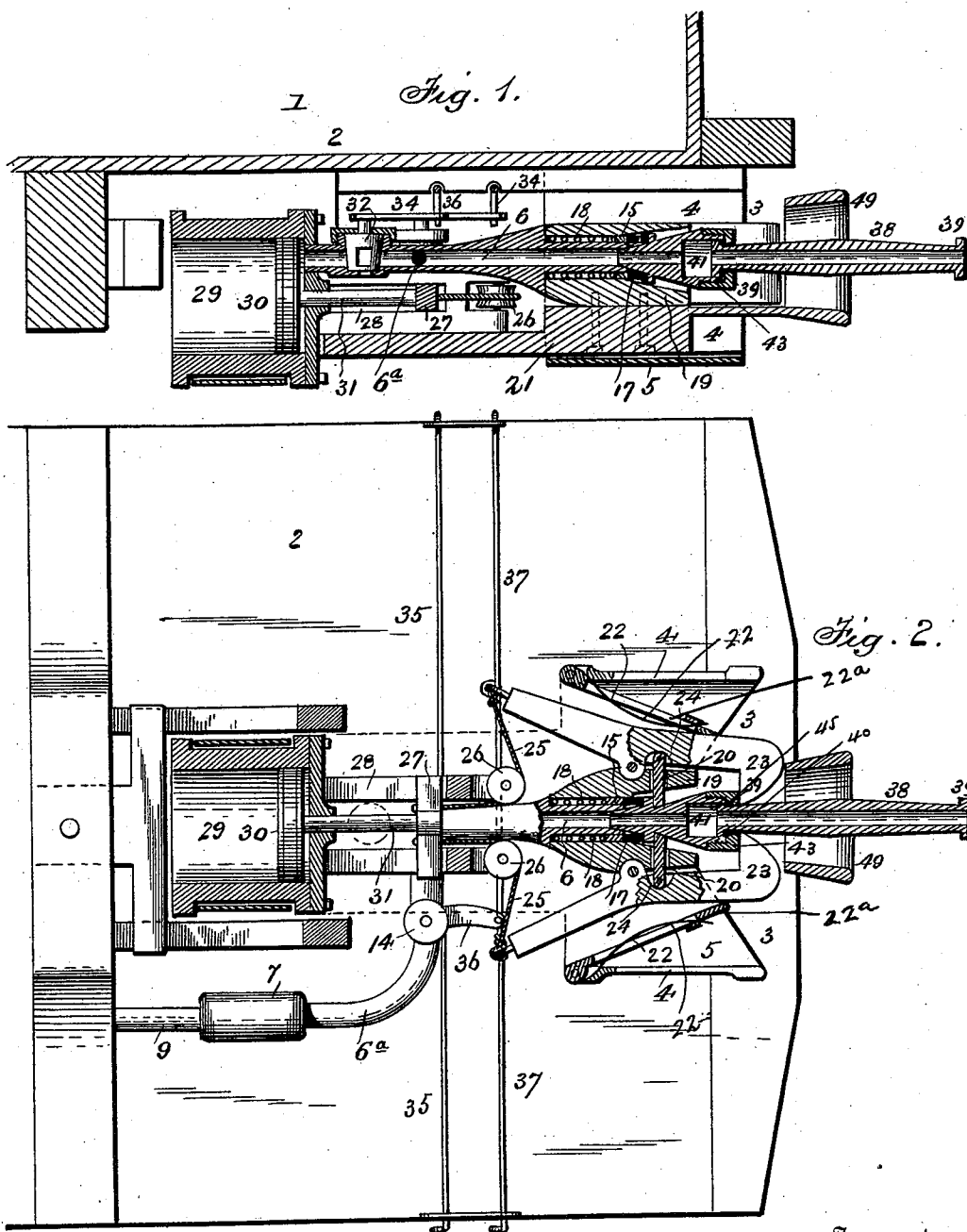
(No Model.)

2 Sheets—Sheet 1.

J. F. WRIGHT.
CAR COUPLING.

No. 583,832.

Patented June 1, 1897.



Witnesses
Frank L. Ourand
J. D. Coombs.

Inventor:
John F. Wright
By Louis Ruggie & Co.
Attorneys

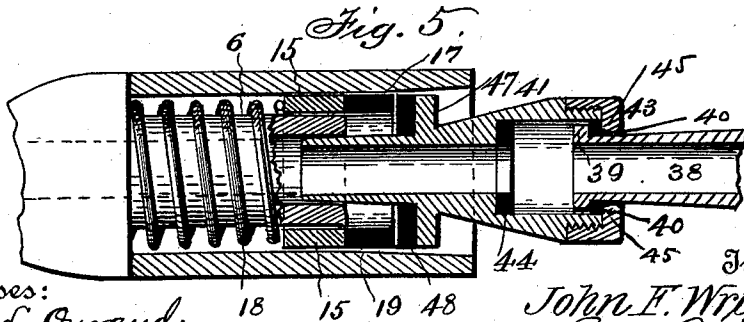
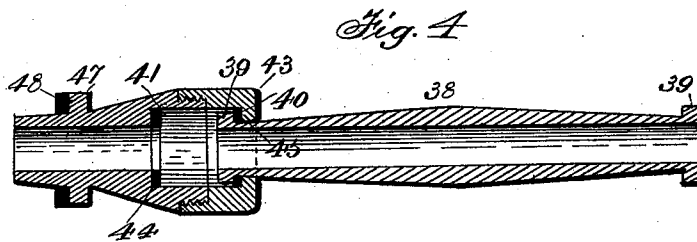
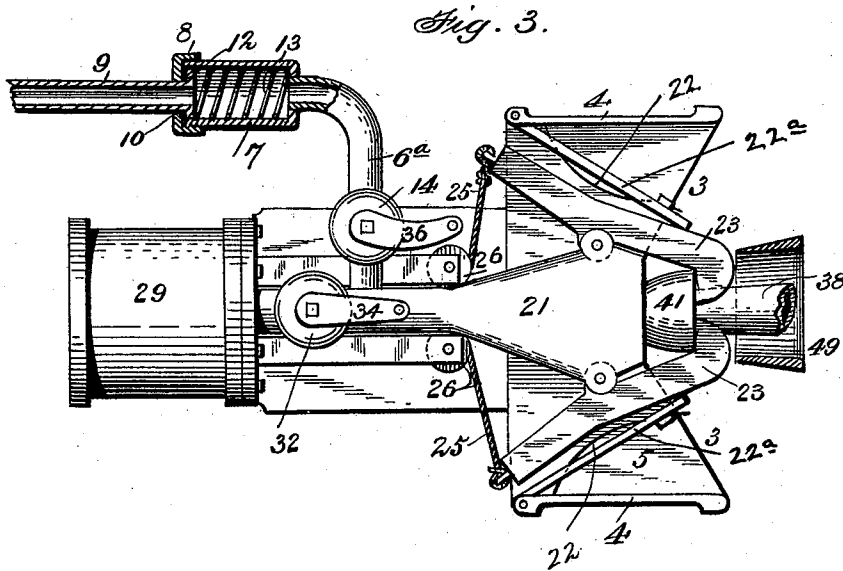
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Inventor:
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UNITED STATES PATENT OFFICE.

JOHN F. WRIGHT, OF SULLIVAN, ILLINOIS, ASSIGNOR OF THREE-FOURTHS
TO E. DOUGLAS LEE AND MURRAY McDONALD, OF SAME PLACE.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 583,832, dated June 1, 1897.

Application filed October 16, 1896. Serial No. 609,085. (No model.)

To all whom it may concern:

Be it known that I, JOHN F. WRIGHT, a citizen of the United States, and a resident of Sullivan, in the county of Moultrie and State of Illinois, have invented certain new and useful Improvements in Car-Couplings; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to improvements in that class or description of automatic car-couplers used in connection with cars provided with fluid-pressure brakes in which the coupling-bar which connects the cars together is made hollow, so as to serve as a connection for the train-pipes, which hold the air under pressure.

The object of the invention is to provide an improved construction of coupling-bar which will securely connect or couple two cars together without liability of accidental disengagement and also connect the air-pipes of the train in such a manner as to make a perfectly air-tight joint, yet at the same time allow the coupling-bar to have a limited play to take up the strain and jar in coupling and in starting and stopping the car.

It is also an object to provide improved means for uncoupling the cars through the medium of the air in the train-pipe.

It is also an object to provide means for connecting the air-pipe leading from the draw-head with the train-pipe, so that said pipes will have a yielding connection or joint, whereby injury thereto in coupling the cars is prevented.

The invention consists in the novel construction and combination of parts hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 is a longitudinal sectional view of a portion of a car, showing my improved coupler applied thereto. Fig. 2 is a horizontal section of the same. Fig. 3 is a bottom view of the coupler, partly in section. Fig. 4 is a longitudinal sectional view of the coupling-bar. Fig. 5 is a detail longitudinal section of the coupling-bar and coupling-bar pipe.

In the said drawings the reference-numeral

1 designates the car, and 2 the bottom thereof, which may be of any ordinary or suitable construction. Secured to the said bottom 2 is a draw-head 3, provided at the front end with two downwardly-extending walls 4, connected by a cross-piece 5. Secured to said draw-head is a pipe 6, with which is connected a pipe 6^a, provided with a coupling 7, having connected therewith a screw-threaded collar 8. This collar fits over the end of the train-pipe 9, which is provided with a flange 10. Interposed between said collar and flange is a rubber washer 12, and bearing against said flange is a coiled spring 13. The object of this construction is to allow the coupling to slide upon the train-pipe when the cars are coupled, and thus take up the shock due to the concussion and prevent injury to the parts. The pipe 6^a is provided with a plug valve or cock 14, by closing which communication may be cut off between pipe 6 and the train-pipe. The pipe 6 at its outer end is provided with a slide or collar 15. This slide at the outer end is provided with a rubber washer 17, so as to make a tight joint with the coupling-bar hereinafter described.

A coiled spring 18 encircles the said pipe 6 and bears against the slide 15, the tendency of which is to force the washer 17 of the slide against the end of the coupling-bar. Surrounding said slide and projecting in front thereof is a head or socket 19, provided with alined openings 20. This head serves as a guide to the coupling-bar and is provided with a transverse plate 21, to which and the draw-head are pivoted two hooks 23, provided with pivoted catches 24, which project through the openings in head 19 and engage with the coupling-bar. These hooks are pressed inwardly by means of springs 22, secured to the cross-piece 5, and a slotted pivoted arm 22^a, also connected with said cross-piece. The free ends of said springs bear against the ends of said slotted arms and press them against the hooks. To the inner ends of said hooks are secured ropes 25, which pass around pulleys 26, connected with the draw-head, and are secured to a cross-head 27, working in ways 28. The said pipe 6 extends back or beyond the pipe 6^a and is connected with a cylinder 29, provided with a piston 30, having a piston-rod 31, connected with said cross-head.

The numeral 32 designates a plug cock or valve provided with a handle 34. Operating-rods 35 are connected with the free ends of said handle, which rods extend to opposite sides of the car, respectively, so that the valve may be operated from either side thereof. The valve 14 is provided with a similar handle 36 and rods 37.

The numeral 38 designates the hollow coupling-bar, having an annular collar 39 at each end. This collar fits and is located in a conical head 41, provided with a washer 44 and formed at its inner end with screw-threads, with which engages a loose collar 43, having a shoulder 45, against which rests a washer 40. The outer end of said head 41 is provided with a flange or collar 47, having a rubber washer 48, which is adapted to engage with the open end of the slide 15. The numeral 49 designates a guide-loop at the front end of the draw-head for guiding the coupling-bar thereto.

The operation is as follows: As one car approaches another the coupling-bar will be held in one draw-head, so as to be presented in line with the other draw-head. The coupling-bar will then enter the draw-head, striking the beveled ends of the hooks 23, forcing them outward, and also the catches 24, connected therewith. The flange or collar 47 on the end of the conical head 41 will then engage with the outer end of the slide 15, when the said hooks will spring inward, and the catches 23, engaging with the rear side of the flange or collar 47, will hold it securely in place on the slide and will make a perfectly tight joint. The coupling-bar, however, can have a limited play both inward and outward, the collar on the end thereof alternately striking the washers 44 and 40 as the said bar moves in and out. The said bar can also have a lateral or sidewise movement in any direction, thus taking up jars and shocks and enabling the cars to turn curves without straining the bar.

When it is desired to uncouple the cars, the valve 32 (which in normal position is closed) is opened by one of the rods 35, allowing air from the train-pipe to enter the cylinder 29, forcing back piston 30, which, by means of its rod 31, will operate the cross-head 27, when the ropes connected with the latter will draw the rear ends of the hooks together and withdraw the catches 24 from engagement with the flange or collar of the conical head connected with the coupling-bar. The said bar can then be withdrawn from the draw-head. The said valve is then closed, when the springs will return the hooks to normal position.

When the cars are coupled, the train-pipes of each car will be connected through the medium of the hollow coupling-bars and the pipes 6 and 6^a.

Having thus fully described my invention, what I claim is—

1. The combination with the train-pipe, the pipes connected with the ends thereof, the coupling-bar pipes provided with a collar at the outer ends and with washers, the slides working on said last-mentioned pipes, and the coiled springs, of the head surrounding said slides and projecting in front thereof and formed with opposite openings, the pivoted hooks and the catches pivotally connected therewith and extending through the openings in said heads, substantially as described.

2. The combination with the train-pipe, the pipes connected with each end thereof provided with valves and operating-rods and the coupling-bar pipes connected therewith, of the cylinder connected with said last-mentioned pipes, the valves and operating-rods, the piston and piston-rods, the cross-heads, the pivoted hooks and the ropes connecting the same with the said cross-heads, substantially as described.

3. The combination with the train-pipe, the pipes connected with each end thereof, the coupling-bar pipes connected therewith, the collar at the end thereof, the slides, the washers and the coiled springs, of the heads surrounding said slides, formed with opposite openings, the pivoted hooks, the catches pivoted thereto, the ropes secured to the rear ends of said hooks, the cross-heads, the piston-rods and piston, the cylinders, the valves and the operating-rods, substantially as described.

4. In a car-coupling, the combination with the car, the train-pipe provided with a collar at each end, the coupling in which said collars fit, provided with an inwardly-extending flange, the coiled springs, the pipe connected with said couplings, provided with valves and operating-rods, the coupling-bar pipes, the collars on the ends thereof, the slides, the washers and the coiled springs bearing against said slides, of the heads surrounding said slides provided with opposite openings, the pivoted hooks, the catches pivoted thereto, the ropes connected with the rear ends of said hooks, the cross-heads, the piston-rods and pistons, the cylinders with which said coupling-bar pipes are connected and the valves and operating-rods, substantially as described.

5. As an improved article, the hollow coupling-bar having a collar at each end, the conical heads having a flange and washer at the ends, the loose collars engaging with ends of said bars and with which said heads are connected, the inwardly-extending shoulders at the inner ends of said collars and the washers, substantially as described.

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

JOHN F. WRIGHT.

Witnesses:

AUGUST PETERSON,
BENNETT S. JONES.