

(No Model.)

J. R. DRODZEWSKI.

STEAM PIPE CONNECTION BETWEEN RAILWAY CARS.

No. 348,664.

Patented Sept. 7, 1886.

Fig. 1.

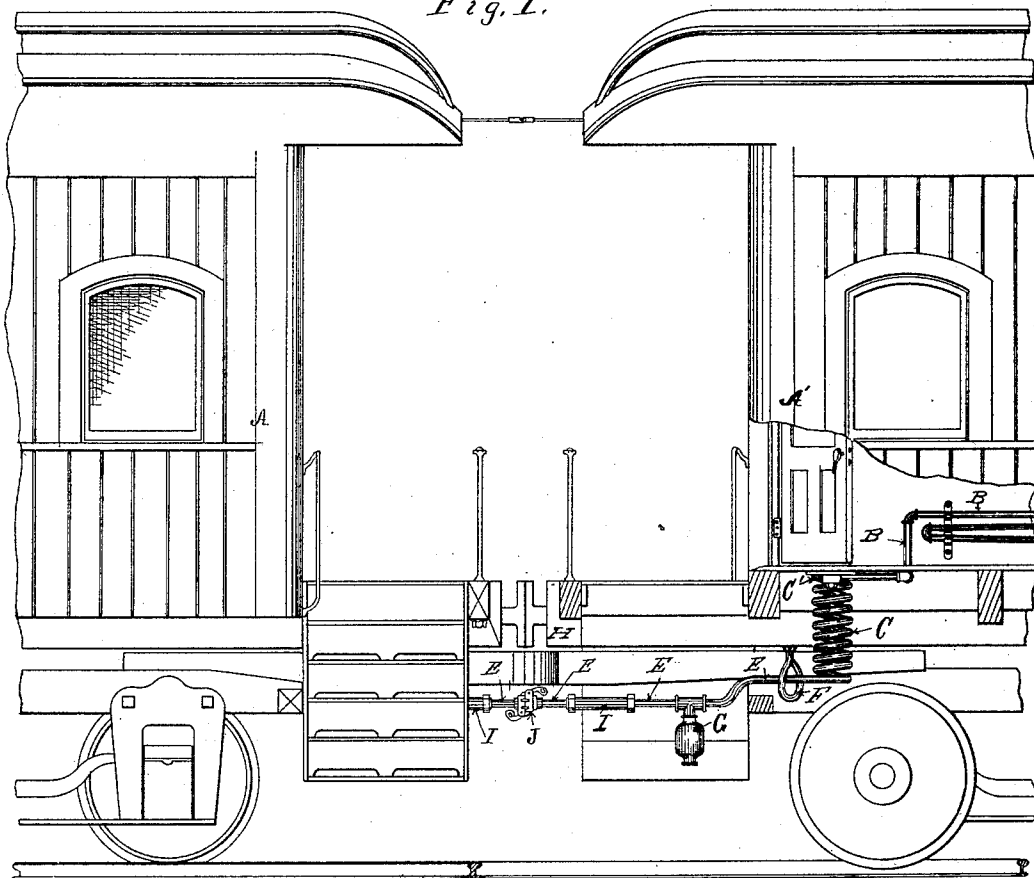


Fig. 2.

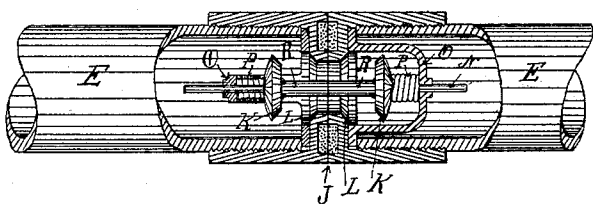
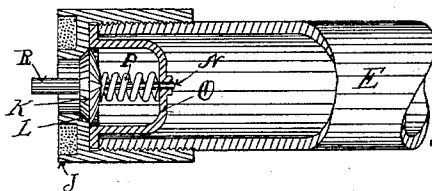


Fig. 3.



Witnesses.

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UNITED STATES PATENT OFFICE

JULIUS R. DRODZEWSKI, OF ERIE, PA., ASSIGNOR OF TWO-THIRDS TO
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STEAM-PIPE CONNECTION BETWEEN RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 348,664, dated September 7, 1896.

Application filed July 6, 1896. Serial No. 207,274. (No model.)

To all whom it may concern:

Be it known that I, JULIUS R. DRODZEWSKI, a citizen of the United States, residing at Erie, in the county of Erie and State of Pennsylvania, have invented certain new and useful Improvements in Steam-Pipe Connections between Railway-Cars; and I 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, forming part of this specification.

My invention relates to steam-pipe connections between railway-cars; and it consists in the improvements hereinafter set forth and explained.

My invention is illustrated in the accompanying drawings, in which Figure 1 shows a side elevation of sections of two railway-cars, a portion of the side of one car being broken away, showing my improved steam-pipe connections thereon. Fig. 2 shows the valves in the ends of the sections of the coupling-joint when the joint is coupled together. Fig. 3 shows the valve in one section of the coupling-joint when the joint is uncoupled.

Like letters refer to like parts in all of the figures.

Heretofore in the construction of steam-pipe connections between railway-cars each section of the connections has been provided, usually, with ball-and-socket or other form of universal joints, by means of which joints the connections between the car are rendered sufficiently flexible, so that they will accommodate themselves to the vibrations and movements of the car when in motion. In my construction, however, I do away with all joints of this character by making a portion of each section of the connecting-pipes in the shape of a flexible-pipe coil, which renders the sections sufficiently flexible that, when their ends are coupled together between the cars in the usual manner, the connections will accommodate themselves to all the vibrations and movements of the cars so connected without injury to the coupling-joint or its connections.

In the construction of my device shown, A

A' are cars, and B B the steam-heating pipes in the car A', these pipes being arranged in the car in any convenient manner. I place under each end of the car a flexible coil of pipe, C, the upper end of which is coupled directly to the heating-pipes B B, or, if desired, to a supply-pipe, which may be placed under the car, from which connections can be made to the pipes B B. The upper end, C', of this coil C, I secure firmly to the frame-work of the car in any convenient manner. The lower end, D, of the coil C is provided with a pipe, E, which extends toward the end of the car, preferably passing through a guard, F, secured to the frame-work of the car, the object of the guard F being to prevent accidental injury to the coil C by excessive lateral movement of the pipe E. After the pipe E passes beyond the guard F it is preferably bent slightly downward from a direct line, to provide more perfectly for drainage to a steam-trap, G, which is attached to the pipe E near that point. This steam-trap is of usual and ordinary construction.

In the extension of the pipe E beyond the steam-trap G, I place a telescopic joint, I, of ordinary construction, from which joint I the pipe E extends to a coupling-joint, J.

The coupling mechanism of the joint J is of ordinary construction, the only novelty therein being the automatically-closing valves K, which close against valve-seats L in the sections of the coupling, the sections of the coupling being provided with valve-seats L, to which seats the valves K are fitted by ground joints, so as to be steam-tight. The valves K are provided with stems R, projecting, when closed, beyond the faces of the sections of the coupling in which they are seated, as and for the purpose hereinafter set forth. On the back of the valves K, I also make a stem, N, which passes through a yoke, O, which acts as a guide for the valve K. Between the back of the valve K and the yoke O, I place a small spiral spring, P, which operates to close the valve K quickly when the sections of the connecting-joint are uncoupled, and prevent the escape of the steam in the pipes.

In coupling the joint J, when the sections thereof are brought together the projecting

stems R on the valves K first come in contact, forcing the valves K back from their seats L, as shown in Fig. 2, so as to allow the steam to pass freely through the joint J. When, however, the joint J is uncoupled the springs P automatically seat the valves K, so as to retain the steam in the pipes, while the traps G allow the water condensed from the steam to freely escape.

It is obvious to those skilled in the art to which my invention appertains that the spring of the flexible coils C will permit of both lateral and vertical movement of the pipes E, so that they will accommodate themselves to the movements of the cars A A', while the telescopic joints I provide for variations in the length of the pipes E, caused by the slack in the car-couplings, and also that if the joint J is uncoupled, either by accident or otherwise, the valves K will prevent the escape of the steam in the pipes.

I have thus shown and described convenient mechanism for utilizing my invention. It is obvious, however, that the same may be varied from the construction shown and good results attained without departing from the spirit of my invention; therefore I do not desire to confine myself to the exact construction shown and described, as—

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination, in a steam-pipe connection between railway-cars, of a coupling-joint with a flexible coil of pipe, one end of which communicates with a pipe extending to the coupling-joint and the other with the steam-pipes of the car, substantially as and for the purpose set forth.

2. In a steam-pipe connection between railway-cars, the combination, with a flexible coil of pipe, one end of which coil communicates with the heating-pipes of the car and the other with a pipe extending to the coupling-joint, of a steam-trap and a telescopic joint in the pipe between the coil and the coupling-joint, substantially as and for the purpose set forth.

3. In a steam-pipe connection between railway-cars, the combination of a flexible coil of pipe, one end of which connects with a pipe for conveying steam to the heating-pipes of the car and the other to a pipe extending to the coupling-joint between the cars, with a steam-trap, and a telescopic joint in the pipe between the coil and the coupling-joint, and an automatic valve in each section of the coupling-joint, substantially as and for the purpose set forth.

4. In a steam-pipe connection between railway-cars, the combination of the flexible coil of pipe C and the pipe E with a steam-trap, G, a telescopic joint, I, and a coupling, J, substantially as and for the purpose set forth.

5. In a steam-pipe connection between railway-cars, the combination of a flexible coil of pipe C and the connecting-pipe E with the guard F, substantially as and for the purpose set forth.

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

JULIUS R. DRODZEWSKI.

Witnesses:

H. C. CANTOR,
JAS. U. HANFORD.