(No Model.)

J. A. CRISWELL.

LUBRICATING ATTACHMENT FOR RAILWAY CARS.

No. 383,558. Patented May 29, 1888.

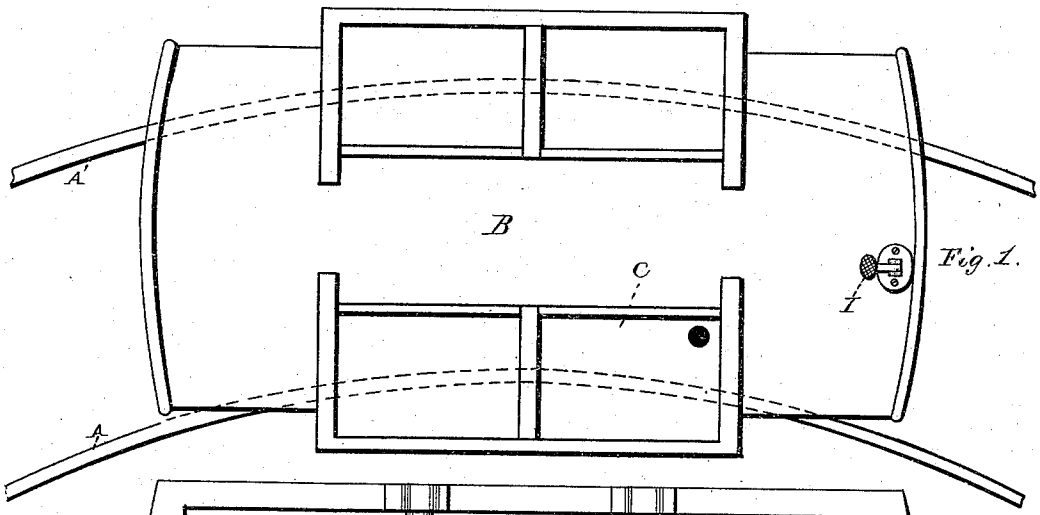


Fig. 1.

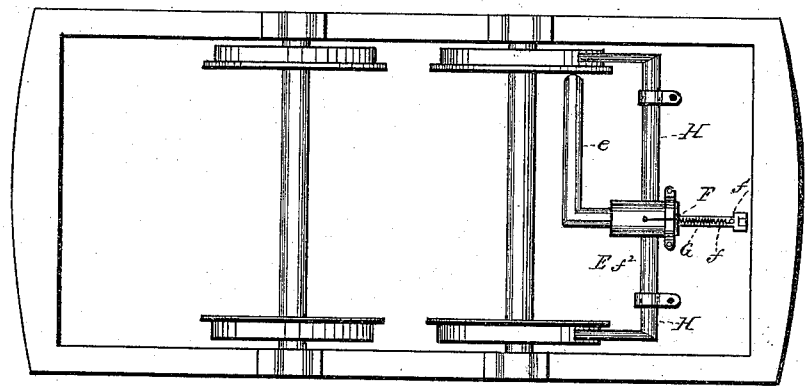


Fig. 2.

Fig. 3.

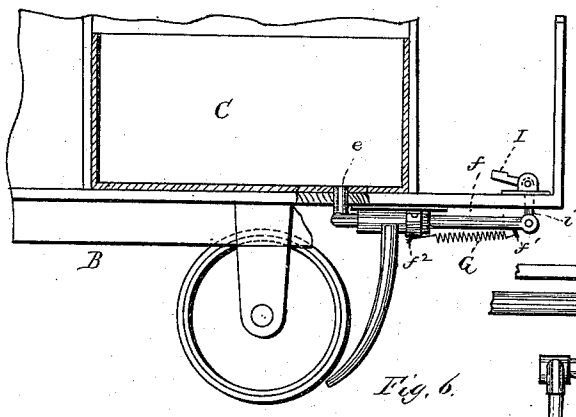


Fig. 4.

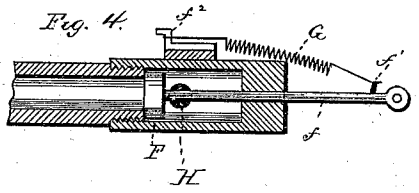


Fig. 5

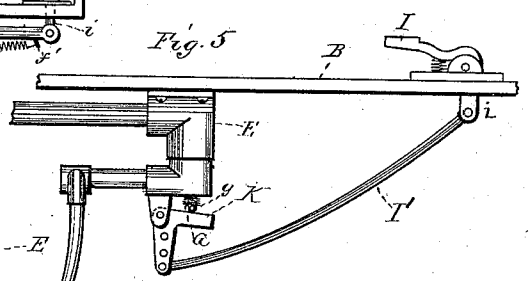
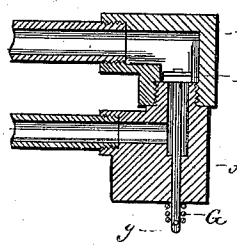


Fig. 6.



WITNESSES

M. B. Harris.

P. C. Masi.

INVENTOR

J. A. Criswell,

by E. W. Anderson,

Attorney

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

JAMES A. CRISWELL, OF PHILADELPHIA, PENNSYLVANIA.

LUBRICATING ATTACHMENT FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 383,558, dated May 29, 1888.

Application filed July 30, 1887. Serial No. 245,722. (No model.)

To all whom it may concern:

Be it known that I, JAMES A. CRISWELL, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Anti-Friction Attachments for Railway-Cars; and I do 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 letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a top view of street-car body with my improvement attached. Fig. 2 is a bottom view of my improved anti-friction attachment. Fig. 3 is a side elevation; Fig. 4, a vertical longitudinal section of valve-chamber. Fig. 5 is a modified view of my anti-friction attachment. Fig. 6 is a vertical longitudinal section of valve-chamber.

This invention is a device for throwing water, oil, or other proper lubricating liquid on a railway-track when turning a curve, to reduce the friction and prevent the flange of the wheel that is forced against the outer rail of the curve from being cut or from cutting the rail; and it consists in the construction and novel combination of parts, as hereinafter set forth. The device is applicable both to street and steam railways.

Referring to the accompanying drawings, A' A designate the outer and inner rails, respectively, of a curve on a railway.

B is the body of a street-car, and C the tank to contain water or oil, placed in a convenient position thereon.

e is a pipe connecting the valve-chamber E to the tank, and F is a valve of proper construction within said chamber and resting on a seat formed by the adjoining end of the pipe *e*. The valve-rod *f* passes out of the head of the chamber E, and its portion outside of the chamber is provided with a hook, *f'*, having one end of a coiled spring, G, attached to it, the other end of which is attached to a hook, f^2, fixed to a bracket secured to the car-frame.

H H are pipes extending from the sides of the valve-chamber, then bending down vertically, and then extending rearwardly over the rails A A', the said pipes being supported by brackets secured to the car-frame on each side.

To a small support on the platform of the car is journaled the treadle I, having a depending arm, *i*, pivoted at its end to the adjacent end of the valve-rod *f*.

In turning a curve, when the driver wishes to throw the lubricator on the track, he presses down the treadle, and by means of the arm thereof pulls the valve-rod outward against the spring G and moves the valves so as to allow communication between the pipes *e* and H. The lubricating liquid then flows out through the valve-chamber and pipes H upon the rails. After the treadle is released it is raised by the retracting of the spring G, which also causes the valve F to cut off communication between the pipe H and the pipe *e*, thus preventing the outlet of the lubricator. The lubricator prevents the grinding action between the flange and outer rail of the curve, and the momentum of the car or train carries the same around the curve.

Upon locomotives a modification (shown in Figs. 5 and 6) is used. In this the lower arm of the treadle is connected by a link-rod, I', to the depending arm of an angle-lever, K, which is pivoted at its angle between lugs depending from an extension of the valve-chamber. The valve also (Fig. 6) has a vertical motion, and has its part below the valve-chamber surrounded by a coiled spring, the equivalent of the spring G, which bears against a pin, *g*, to keep the valve closed on its seat. The point of the valve-rod bears upon the horizontal arm of the angle-lever K, so that when the engineer or fireman depresses the treadle the valve is pushed up from its seat and the lubricator from the tank allowed access to the discharge-pipes.

Having described my invention, I claim—

1. The combination, with the car-body and wheels having their axles connected to the body in the usual manner, of the tank secured to the car-body, the valve-chamber communicating by a pipe, *e*, with the tank, the pipes *a*, running from the valve-chamber, and having their discharge-orifices over the rails in front or outward from the adjoining wheels, the piston-rod F and its reciprocatory valve-rod *f*, the treadle journaled upon brackets secured

to the car-platforms and acting substantially as described upon the valve, and the spring G, whereby the valve-rod is moved in the direction opposite to the motion imparted by the treadle when released from the latter, substantially as specified.

2. The combination, with the car-body, wheels, and tank secured to the car-body, of the spring-elevated treadle I, attached to the platform of the car and provided with the depending arm *i*, the valve-chamber E, the pipe *e*, connecting the tank and valve-chamber, the pipes H, the piston-valve F and its stem *f*, the spring G, surrounding the end part of the valve-stem, the angle-lever K, and the link-rod I′, having its lower end adjustable on the depending part of the angle-lever, all constructed and arranged substantially as and for the purpose specified.

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

JAMES A. CRISWELL.

Witnesses:
HARRY PETTIT,
C. J. KEEFE.