

H. E. MARCHAND.
Car-Brakes.

No. 147,852.

Patented Feb. 24, 1874.

Fig. 1.

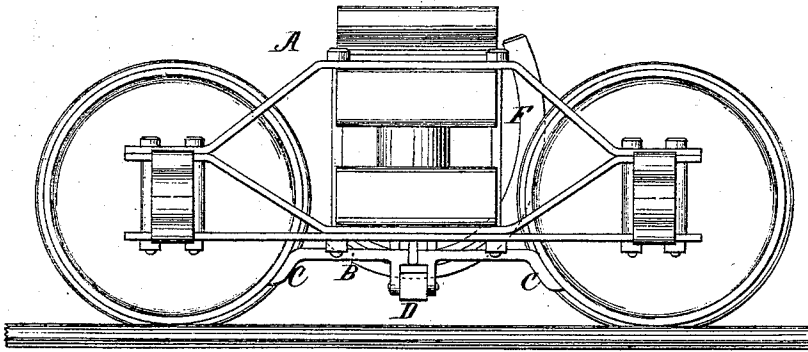
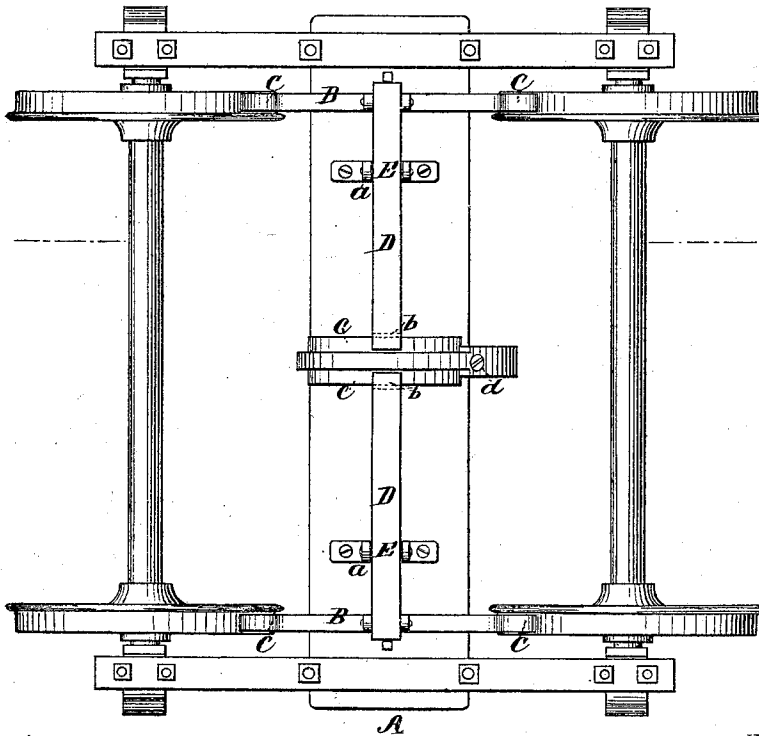


Fig. 2.



Witnesses:

T. H. Brecht
a. d. Torrie

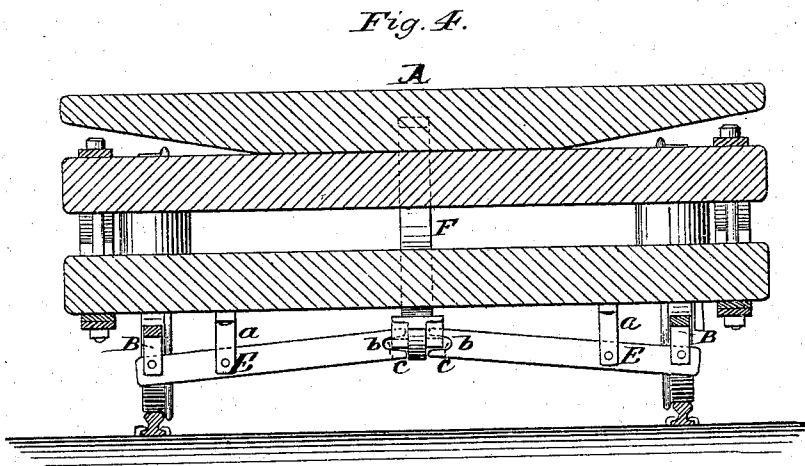
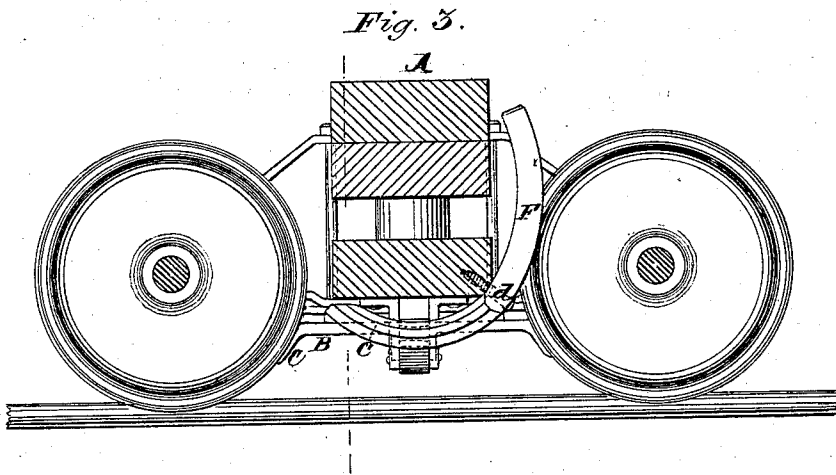
Inventor:

Henry E. Marchand.
By James L. Norris,
Atty.

H. E. MARCHAND.
Car-Brakes.

No. 147,852.

Patented Feb. 24, 1874.



Witnesses:

T. C. Buecht,
a. 76. Norris

Inventor:

Henry E. Marchand,
By James L. Norris,
Atty.

UNITED STATES PATENT OFFICE.

HENRY E. MARCHAND, OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN CAR-BRAKES.

Specification forming part of Letters Patent No. **147,852**, dated February 24, 1874; application filed February 5, 1874.

To all whom it may concern:

Be it known that I, HENRY E. MARCHAND, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Rising and Falling Brakes for Cars, of which the following is a specification:

This invention has for its object to furnish a simple and compact car-brake, which can be operated with celerity and precision, and with a comparatively less expenditure of power than in the brakes heretofore in use. The invention consists in the employment of rising and falling brake-bars, located between the wheels of the car, and connected with transverse lever-arms, the inner free ends of which are bifurcated for the reception of lateral ribs or projections on an arc-shaped or curved arm, to which the force for operating the brakes is applied by any preferred means, the operation of the various parts being such that when the curved arm is moved in the requisite direction the pivoted lever-arms carrying the brake-bars will be vibrated on their fulcrums, thus raising the brake-bars and forcing the shoes on the same against the tread of the car-wheels, for speedily arresting the rotation of the same.

In the accompanying drawings, Figure 1 is a side elevation of a car-truck, showing my brake mechanism applied thereto. Fig. 2 is a plan view of the bottom of a car-truck and the brake devices. Fig. 3 is a longitudinal section, and Fig. 4 is a transverse section, of a car-truck and brake devices.

The letter A designates a railroad-car truck of the ordinary construction, and B B are longitudinal brake-bars, which are located between the front and rear wheels of the truck, and provided at both ends with brake-shoes C C. Said shoes are generally made detachable, so as to enable the same to be readily removed when worn out, in order to be replaced by new ones. To the central portion of each brake-bar there is pivoted a transverse lever-arm, D, which has its fulcrum, at E, in a hanger or bracket, *a*, attached to the head-block or transom of the truck, and the inner ends of both lever-arms meet or terminate at the center of the truck, or at any other suitable point. The

adjacent ends of said lever-arms are bifurcated, as shown at *b*, so as to enable the same to embrace lateral ribs *c*, formed on an arc-shaped or curved bar, F, which is pivoted to the truck at *d*.

The force or power for operating the brakes is applied to the upper extremity of said curved arm in any preferred manner, the power being derived either from an air or steam actuated piston, or from a hand-shaft or windlass.

By vibrating the arc-shaped lever or curved bar F, the lower or ribbed portion of the same will be elevated, thus rocking the transverse lever-arms on their fulcrums, and causing the brake-bars to be elevated for forcing the brake shoes or blocks carried by the same against the tread of the car-wheels, which will effectually arrest the rotation of the same in a speedy manner. The brakes are released from the wheels as soon as the operative force or power is removed from the arc-shaped arm, the brake-bars then falling by their own weight to such an extent or degree as is necessary for the object stated.

The movement required for applying and removing the brakes from the wheels is comparatively slight, and thus the same can be readily and speedily operated.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The transverse lever-arms D D, carrying at one end the brake-bars B B, and connected at their inner ends with a curved arm, F, to which the operative force may be applied, all combined to form a rising and falling car-brake, substantially as described.

2. The curved arm F, provided with lateral ribs *c*, entering the bifurcated ends of the lever-arms D D, which carry the brake-bars B B, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 14th day of January, 1874.

HENRY E. MARCHAND.

Witnesses:

W. L. PETTIT,
A. HILT NORRIS.