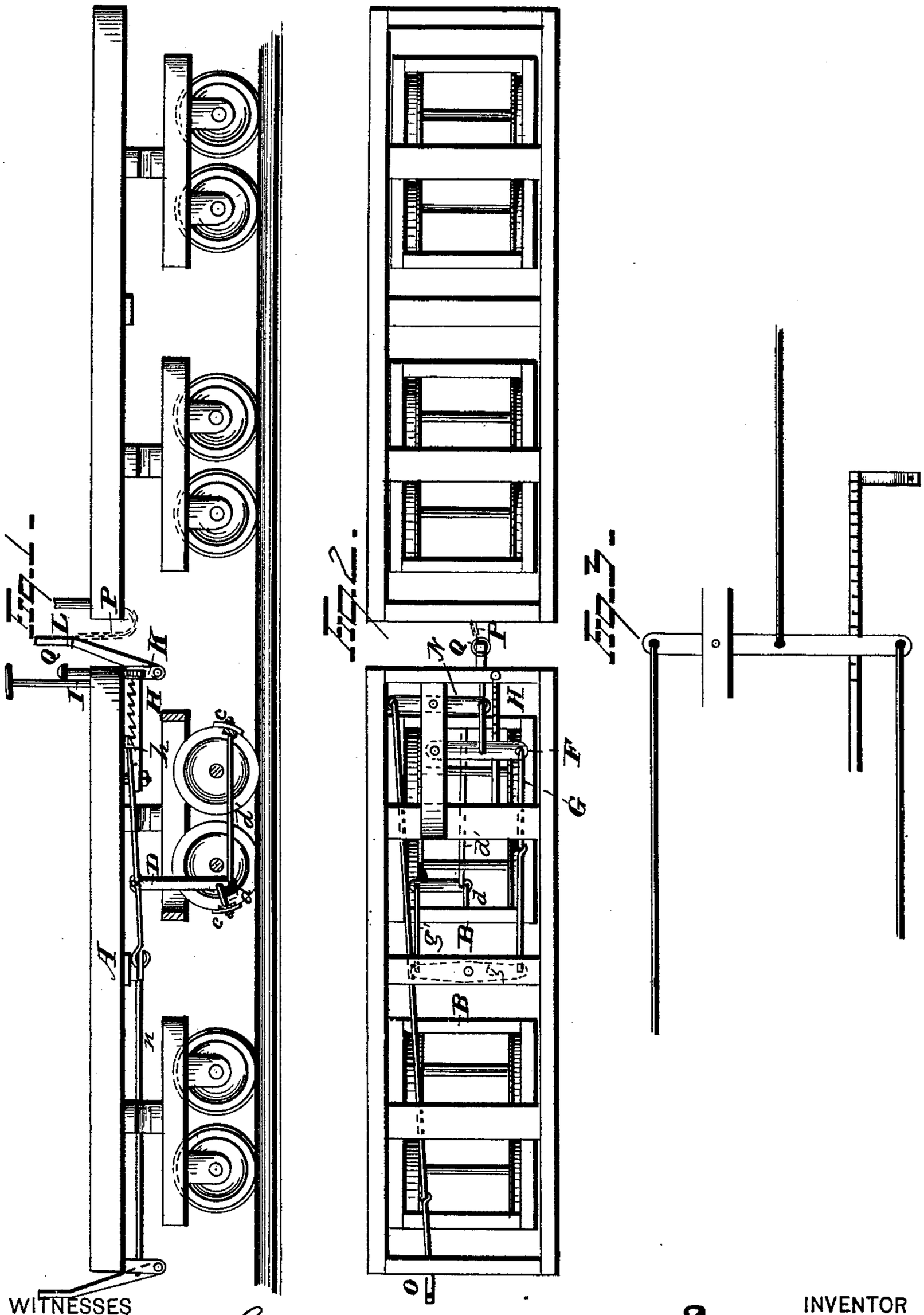
2 Sheets—Sheet 1.

# L. T. HAY.

## CAR-BRAKE.

No. 189,457. Patented April 10, 1877.



WITNESSES

Ed. L. Nottingham

A. M. Bright

INVENTOR

Lamar T. Hay.

By Leggett and Leggett.

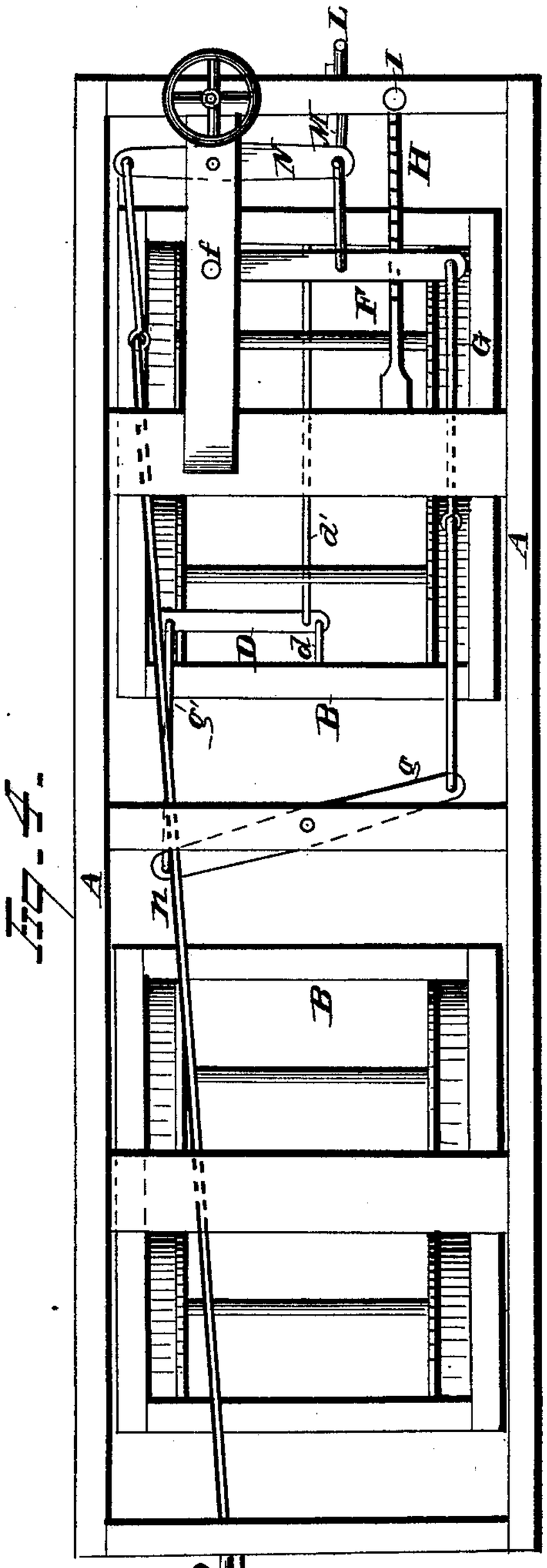
ATTORNEYS.

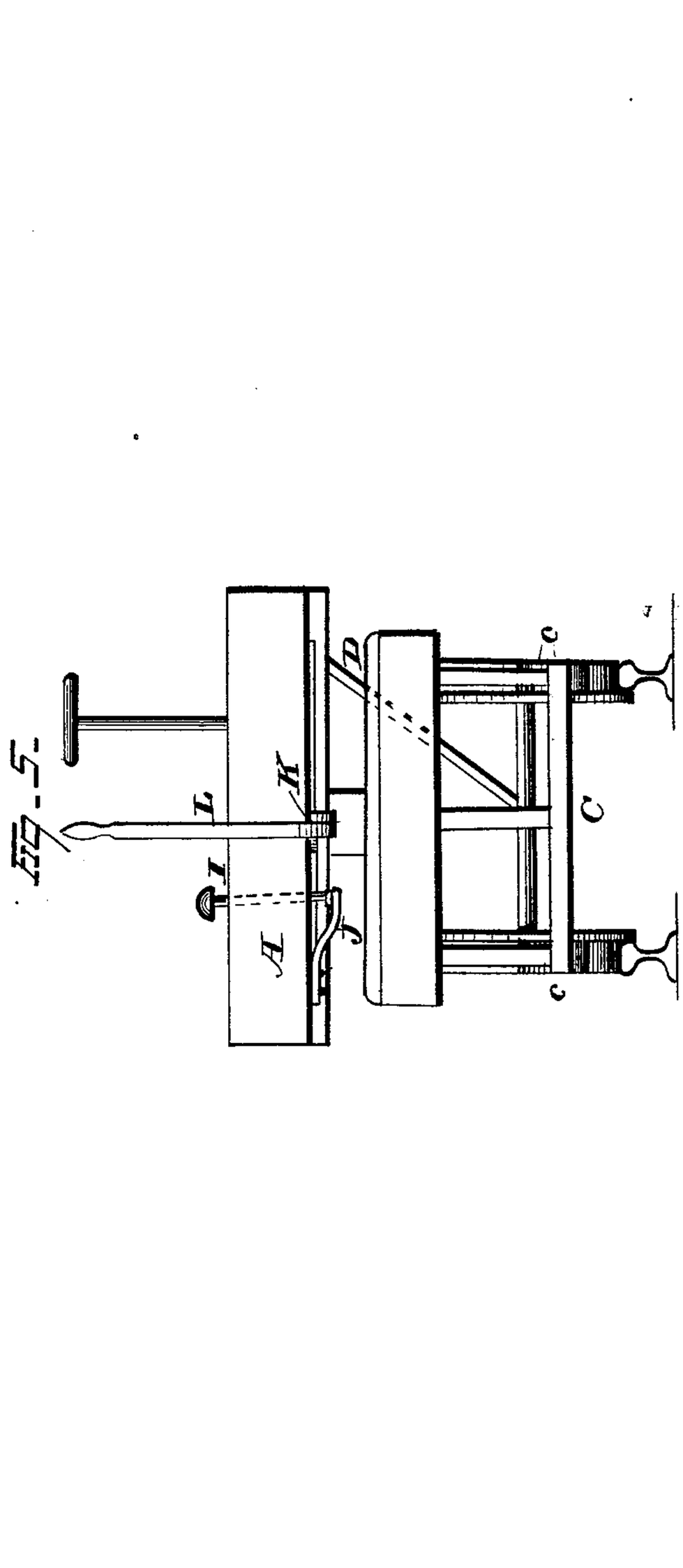
2 Sheets—Sheet 2.

# L. T. HAY.

## CAR-BRAKE.

No. 189,457. Patented April 10, 1877.




WITNESSES

Ed. L. Nottingham

A. W. Bright.

INVENTOR

Lamar T. Hay.

By Leggett and Leggett

ATTORNEYS

# UNITED STATES PATENT OFFICE.

LAMAR T. HAY, OF XENIA, OHIO.

## IMPROVEMENT IN CAR-BRAKES.

Specification forming part of Letters Patent No. **189,457**, dated April 10, 1877; application filed March 6, 1877.

*To all whom it may concern:*

Be it known that I, LAMAR T. HAY, of Xenia, in the county of Greene and State of Ohio, have invented certain new and useful Improvements in Safety-Brake for 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improved safety-brake for railway-cars.

The object of this invention is to provide railway-cars with a brake attachment that operates to automatically set the brakes of a car, should the latter become accidentally disengaged from the train.

In the drawings, Figure 1 is a side elevation of car frames and trucks provided with my improved safety-brake attachment, the car-wheels being removed from one side to show the parts of the brake. Figs 2 and 4 are plan views of the same. Fig. 3 is a modification. Fig. 5 is an end view.

A designates the car-frame, and B the trucks, each of which are provided with the ordinary brake-bars C, brake-shoes *c*, lever D, and rods *d d'*, which parts are connected with the brake-shafts E, and operated in the usual manner. Lever F is pivoted at its end *f* to the under side of frame A, the free end of said lever being connected by rod or chain G to one end of a centrally-pivoted lever, *g*, the opposite end of lever *g* connecting with the upper end of the main brake-lever D by chain *g'*. Lever F is formed with its rear edge turned at right angles to its main body, or with a flange attached thereto, as shown at *h*, which part serves as a pawl, and engages with the upturned rack-bar H, the rear end of which is hinged to the car-frame, or it may be attached to a spring-bar, to provide for vertical movement of the rack-bar. The forward end of rack-bar H is secured to the lower end of a vertically-movable rod, I, which passes up through the cross-beam of the car-frame, and is upheld by a spiral or other spring, J. A post or pedestal, K, is rigidly secured to the end beam of the car-frame, and to the lower end of said post is pivoted the lower end of an inwardly-bent lever, L. Chain M serves to connect lever L with the central portion of lever F. In order that the brake may be set from the opposite end of the car, a lever, N, is centrally pivoted to the car-frame in advance of lever F, one end of lever N being connected with the central part of lever F, while to the opposite end is attached a rod or chain, *n*, the opposite end being attached to a lever, O, attached to the rear end of car.

Instead of employing a separate and independent lever, N, to actuate the brake mechanism, the same effect may be produced by lengthening the lever F, as shown in Fig. 3, and securing the rod or chain *n* to the short arm of said lever. A chain or rod, P, provided with a ring, Q, is secured to the car in advance, and, when said cars are properly coupled, the ring Q is slipped over the lever L.

The operation of the safety-brake above described is as follows: Should the cars become accidentally uncoupled, or the coupling break, the chain with its ring serves to depress the lever L, the outward movement of which operates to draw forward the lever F, and through the medium of the intervening levers and chains force the brake-shoes tightly against the wheels. As the rack-bar is pressed snugly against the downwardly-turned edge of lever F the latter will be securely locked when the ring slips from lever L, thus effectually applying and locking the brake in an automatic manner by the parting of the cars.

When it is desired to release the brake, pressure is applied to the top of vertically-sliding bar or bolt resting on the forward end of the rack-bar, which depresses the latter, and releases it from the flange on lever F, which latter is then carried back to its normal position by the springs secured to the brake-bar.

It is evident that slight modifications may be made in certain details of construction, and relative arrangement of parts, without departing from the spirit of my invention, the same consisting, broadly, in method of automatically actuating and setting the brakes of cars, should they become separated while under way.

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

1. The combination, with lever F and the brake mechanism, of a spring-pressed rack-bar, arranged to engage with lever F, and automatically lock the brakes, substantially as set forth.

2. The combination, with lever F, rack-bar, and brake mechanism, of lever L, chain P, and ring O, substantially as and for the purpose set forth.

3. The combination, with lever F, of rack-bar and spring, to press the rack-bar against the edge of lever F, substantially as and for the purpose set forth.

4. The combination, with lever F, rack-bar and spring, of a sliding bolt arranged to engage with the forward end of rack-bar, whereby the brakes may be released when desired, substantially as and for the purpose set forth.

5. The combination, with lever F, rack-bar and brake mechanism, of lever N, rod or chain *n*, and lever O, substantially as and for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 22d day of February, 1877.

LAMAR T. HAY.

Witnesses:

CHAS. N. KERSHNER,

F. E. ARNOLD.