

(No Model.)

G. FLETCHER.

CAR BRAKE.

No. 339,284.

Patented Apr. 6, 1886.

Fig. 1.

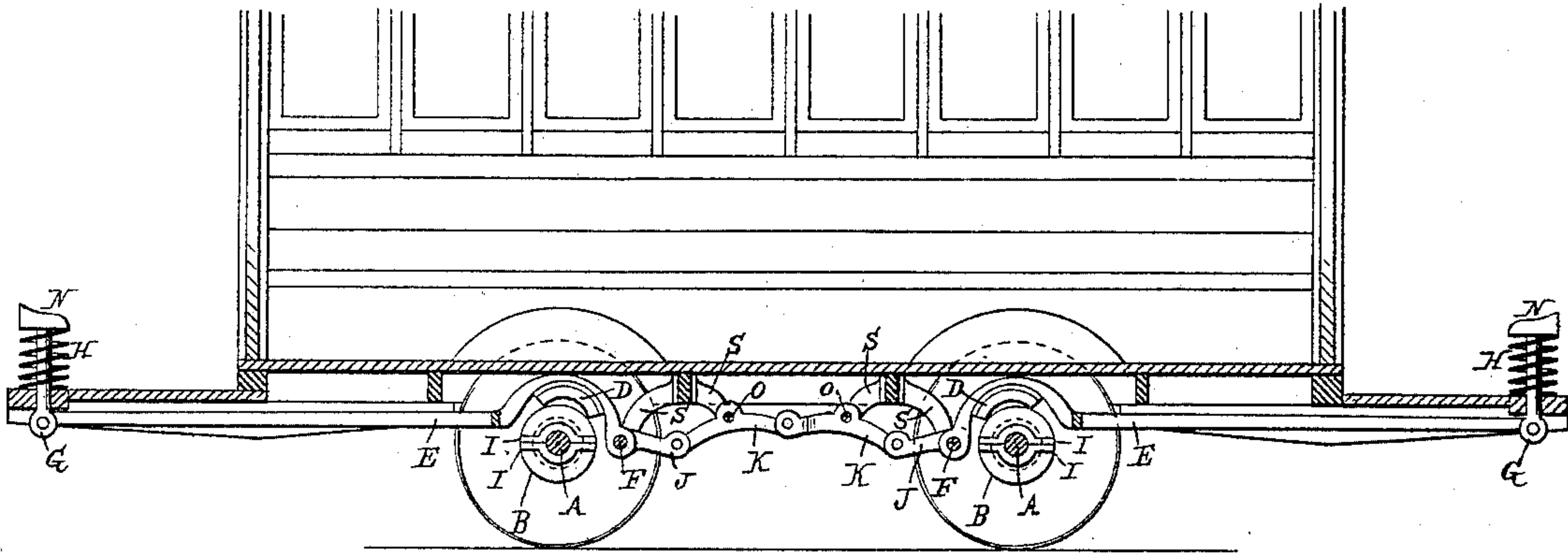


Fig. 2.

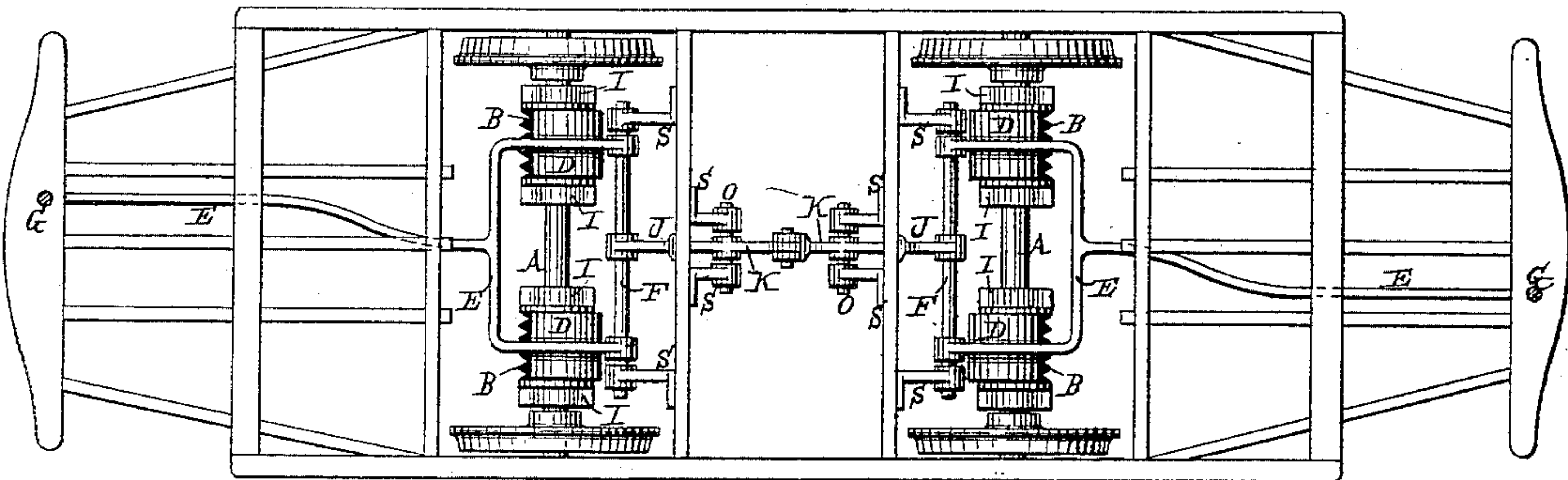
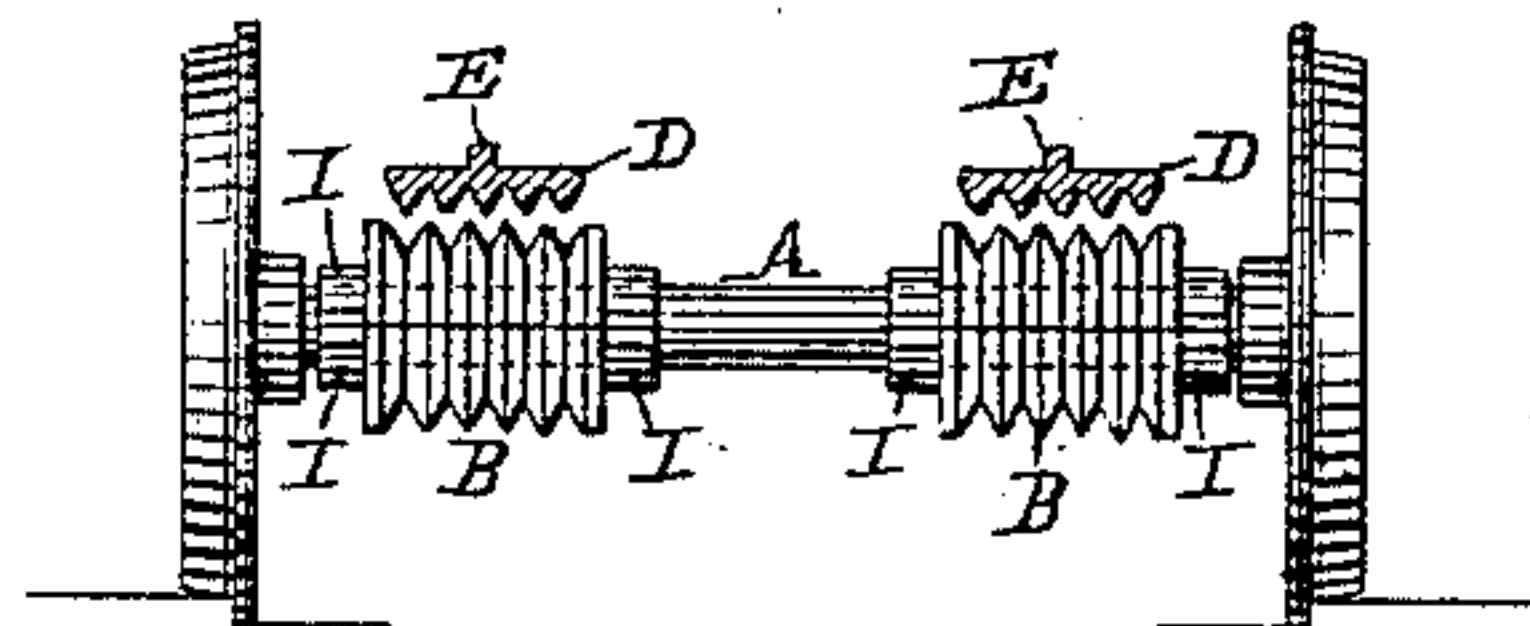


Fig. 3.



WITNESSES:

Chas. W. Ahlers.
L. Douville

INVENTOR:

Geo. Fletcher
BY John A. Diederichsen
ATTORNEYS.

UNITED STATES PATENT OFFICE.

GEORGE FLETCHER, OF BROOKLYN, NEW YORK.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 339,284, dated April 6, 1886.

Application filed January 12, 1886. Serial No. 188,300. (No model.)

To all whom it may concern:

Be it known that I, GEORGE FLETCHER, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented new and useful Improvements in Car-Brakes, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 represents a longitudinal section of a brake embodying my invention. Fig. 2 represents a plan view thereof. Fig. 3 represents a cross-section thereof, omitting the car-frame.

Similar letters indicate similar parts.

My invention relates to that class of car-brakes in which the brake-shoes are combined with the brake-wheels independent of the car-wheels; and it consists of the novel means, hereinafter described, for permitting effective operation of the braking devices of both axles from either end of the car.

Referring to the drawings, the letter A designates the car-axles, upon each of which is secured a pair of brake wheels or pulleys, B, which are independent of the car-wheels, and in proximity to which, in an upward direction, are brake-shoes D, adapted to engage the peripheries of the wheels. Each pair of brake-shoes D is secured to a brake-lever, E, which has its fulcrum in a pivot, F, at one end, where it is bifurcated to accommodate the shoes, and the other or outer end of which is connected with an operating-rod, G, which is furnished with a return-spring, H, the tendency of which is to force the rod upward, so that when said rod is depressed the brake-lever is swung downward and its shoes are brought in frictional contact with the proper brake-wheels, while, when the rod is released, the brake-lever is swung upward to a normal position by the action of said spring to bring the brake-shoes out of action. It is preferred to locate the brake-shoes D above the car-axle, so that the pressure thereby exerted on the axle is in a downward direction; but the shoes may be located at any other suitable point. If desirable, the return-spring H may be arranged to act directly on the brake-lever E, instead of through the medium of the operating-rod.

Each of the brake-wheels B is grooved circumferentially, and the brake-shoes D also are grooved to correspond with the wheels, as

shown in Fig. 3, and it will be seen that the effective area of said parts is materially increased by that means. Each of the brake-wheels B, moreover, is divided longitudinally into two halves or sections, having end flanges, I, whereby they are united on the axle, and by this construction it is made practicable to adjust the brake-wheels on the axle without disturbing the car-wheels.

In order to permit the brakes of both axles to be applied simultaneously and by the operation of either rod G, the brake-levers E are connected together by means of two sets of transmitting-levers, J K, as follows: The levers J, which may be termed the "main transmitting levers," have their fulcrum in the pivots F, to which they, as well as the brake-levers E, are fixed, so that said main levers are in effect portions of the brake-levers, while the other or auxiliary transmitting-levers, K, have their fulcrum in pivots O, and are jointed with each other as well as the main levers, so that a motion of either brake-lever is shared by the other both as to direction and the extent of such motion. The arrangement of said transmitting-levers, however, admits of modification. The pivots F O are hung in brackets S, which are secured to cross-timbers or other suitable portions of the car-frame.

It is evident that my invention is applicable to cars of any description. When applied to horse-cars, the operating-rod G may be equipped with a pedal, N, so that it may be conveniently depressed by the foot, leaving both hands free for driving, while on steam-roads a mechanical device other than the rod and to be adjusted by hand or otherwise may be used for operating the brake-lever.

I am aware that it is not new to provide a car-axle with a brake-wheel made in two parts; neither is it new for a brake-wheel to have a grooved periphery and a brake-shoe fitting said wheel, and such I do not claim.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a car-brake, a brake-wheel constructed in halves and fitted on the axle, and having on its periphery a series of grooves, in combination with a brake-shoe having a contact-surface corresponding to the periphery of the said brake-wheel, substantially as described.

2. In a car-brake, a brake-wheel having on its periphery a series of grooves, and provided with a brake-shoe having a contact-surface corresponding to the periphery of said wheels, substantially as described.

3. A car-brake consisting of grooved brake-wheels mounted on the axles of the running-wheels, in combination with grooved brake-shoes corresponding in number to said brake-wheels, levers pivoted to a frame or frames depending from the car between the running-wheels, said levers extending to the platforms of the car, a series of toggle-levers connected to said pivoted levers and adapted to operate the same at the same time from either platform of the car, substantially as described.

4. In a car-brake, a brake-wheel secured to each of the car-axles, brake-levers E, transmitting-levers J K, connecting the brake-levers together, brake-shoes secured to the brake-levers, respectively, and a means for op-

erating either of the brake-levers, the whole combined substantially as hereinbefore described.

5. In a car-brake, two pairs of brake-wheels secured to the car-axles, respectively, bifurcated brake-levers E, transmitting-levers J K, connecting the brake-levers together, pivots F, constituting the fulcrum of the brake-levers and the main transmitting-levers, two pairs of brake-shoes secured to the brake-levers, respectively, and a means for operating either of the brake-levers, the whole combined substantially as hereinbefore described.

Signed at Brooklyn, in the county of Kings and State of New York, this 31st day of December, A. D. 1885.

GEORGE FLETCHER.

Witnesses:

WM. H. FRIDAY,
CHAS. WAHLERS.