

(No Model.)

W. B. CLARK.  
AUTOMATIC BRAKE.

No. 360,419.

Patented Apr. 5, 1887.

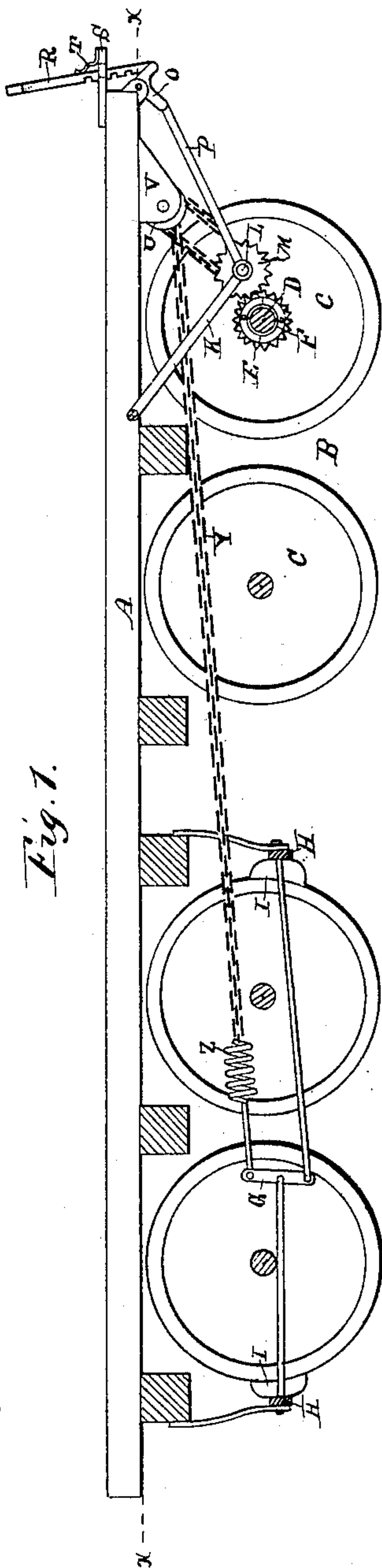


Fig. 1.

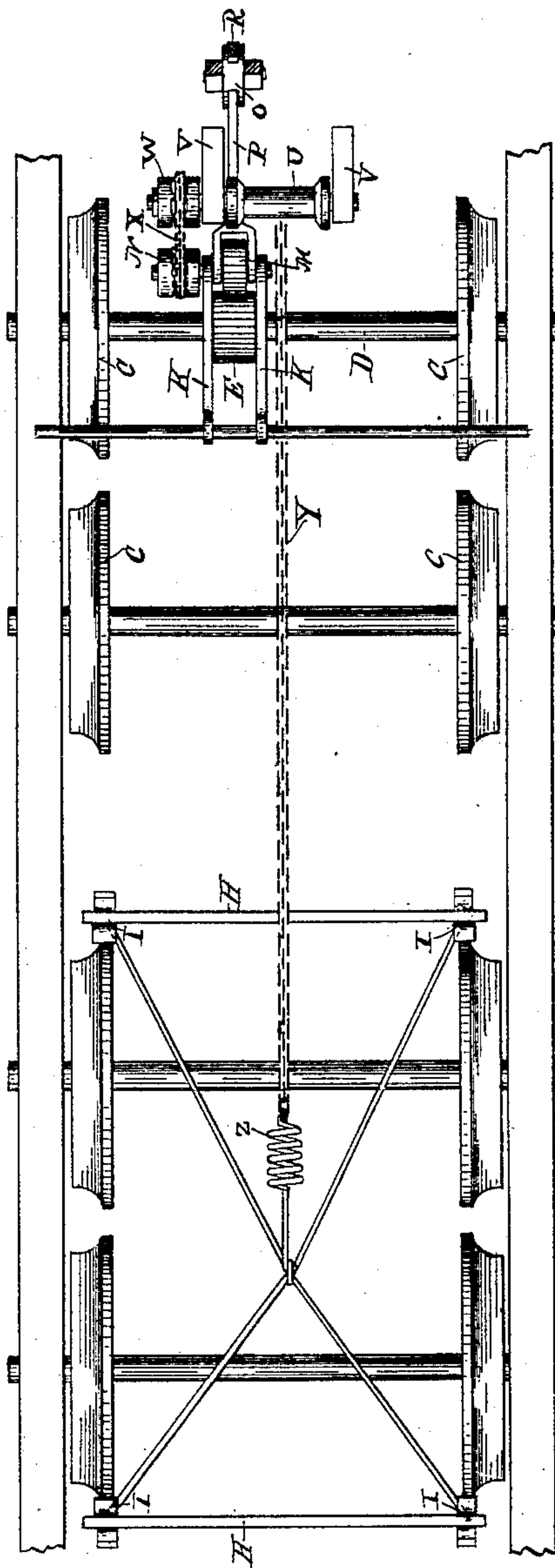


Fig. 2.

Witnesses  
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# UNITED STATES PATENT OFFICE.

WALTER BRENT CLARK, OF COVINGTON, KENTUCKY.

## AUTOMATIC BRAKE.

SPECIFICATION forming part of Letters Patent No. 360,419, dated April 5, 1887.

Application filed September 23, 1886. Serial No. 214,339. (No model.)

*To all whom it may concern:*

Be it known that I, WALTER BRENT CLARK, a citizen of the United States, residing at Covington, in the county of Kenton and State of Kentucky, have invented a new and useful Improvement in Automatic Brakes, of which the following is a specification.

My invention relates to an improvement in brakes for railway-cars; and it consists in the peculiar construction and combination of devices, that will be more fully set forth hereinafter, and particularly pointed out in the claim.

In the drawings, Figure 1 is a sectional view of a railway-car provided with a brake embodying my improvement. Fig. 2 is a horizontal sectional view of the same, taken on the line *xx* of Fig. 1.

A represents the platform of a car, and B represents one of the trucks having the wheels C.

To the axle D of one pair of wheels is attached the spur-wheel E. The said spur-wheel is made in two semi-cylindrical sections, which are placed on opposite sides of the axle, and are secured firmly together by means of semicircular rings F, which are bolted on the ends of the said sections.

G represents the usual brake-lever, which is provided with a brake-bar, H, having the blocks I to bear against the peripheries of the wheels.

K represents an arm, which is pivoted to suitable blocks or beams below the platform, and in the free lower end of the said arm is journaled a shaft, L. To the central portion of the said shaft is rigidly attached a gear-wheel, M, which is adapted to mesh with the wheel E, and to one end of the shaft L is rigidly attached a sprocket-wheel, N.

O represents a bell crank lever, which is fulcrumed to one end of the car on the under side thereof, and one arm of the said lever is connected to the free end of the pivoted arm K by means of a link, P. A rod, R, is guided vertically in a horizontal bracket, S, that projects from one end of the car, and the said rod is provided with a series of notches or teeth adapted to engage the said bracket, so as to secure the rod at any desired vertical adjustment. A spring, T, bears against the other side of the rod R, so as to keep the latter in engagement with the bracket, and the lower end of the said rod is pivoted to the outer arm of the bell-crank lever O.

By this construction it will be readily understood that the arm K may be moved so as to cause the wheel M to engage the wheel E, or the said arm may be moved so as to disengage the said wheels.

U represents a drum, which is journaled horizontally in brackets V on the under side of the car-platform, near the end thereof, and to one end of the said drum is rigidly attached a sprocket-wheel, W. An endless sprocket-chain, X, connects the said sprocket-wheel W with the sprocket-wheel N. A chain, Y, connects the drum U with the brake-lever H, and in the said chain is a coiled spring, Z.

The operation of my invention is as follows: In order to apply the brakes to the wheels of the car when the latter is in motion, the rod R is forced downwardly, thus causing the bell-crank lever O and the link P to swing the arm K rearwardly and cause the wheels E and M to mesh. The rotation of the wheel E is thus immediately communicated to the wheel M, and the sprocket-wheel N, which rotates with the wheel M, causes the sprocket-wheel W to be also rotated, the said sprocket-wheel being connected to the wheel M by the chain previously described, and thus the drum U is set in motion. As the chain Y is wound upon the drum, it pulls upon the brake-lever and applies the brakes to the wheels with a degree of strength proportionate to the rate of speed at which the train is moving. The function of the spring Z is to enable the brakes to be applied gradually to the wheels, thus preventing the cars from being suddenly jarred when the brakes are applied.

Having thus described my invention, I claim—

In a car-brake, the combination of the axle having the wheel E with the swinging arm K, having the wheel M to engage the wheel E and the sprocket-wheel N, the lever O, connected to the swinging arm to move the latter, the drum U, having the sprocket-wheel connected to the wheel N by the endless chain, and the brake-lever and chain connecting the latter with the drum, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

WALTER BRENT CLARK.

Witnesses:

JOS. F. ENDRESS,  
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