(No Model.)

# W. H. TICE.

## CAR BRAKE.

No. 344,694. Patented June 29, 1886.

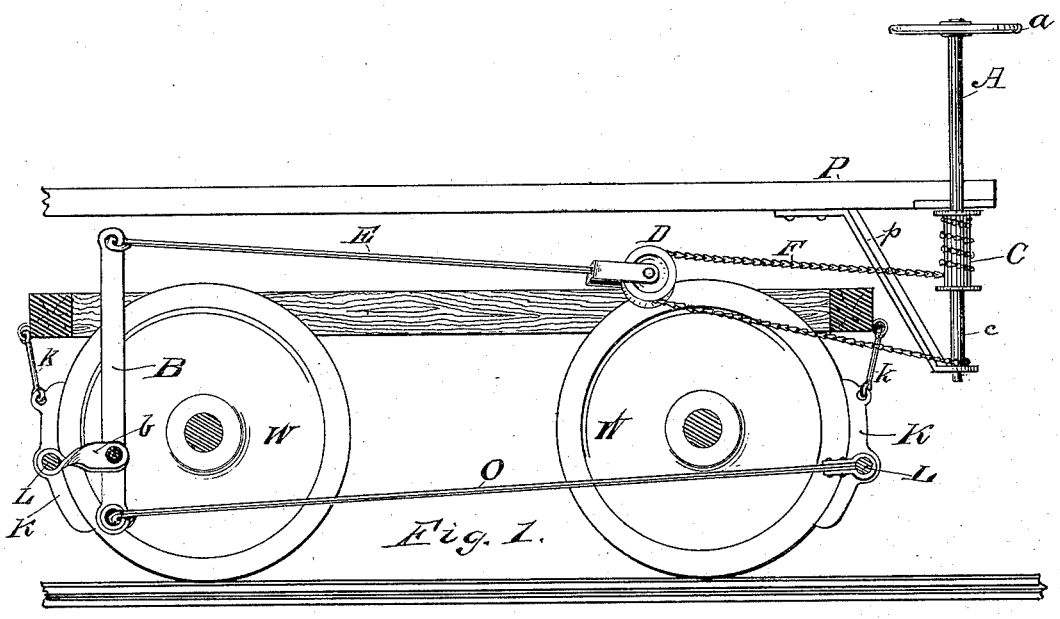


Fig. 1.

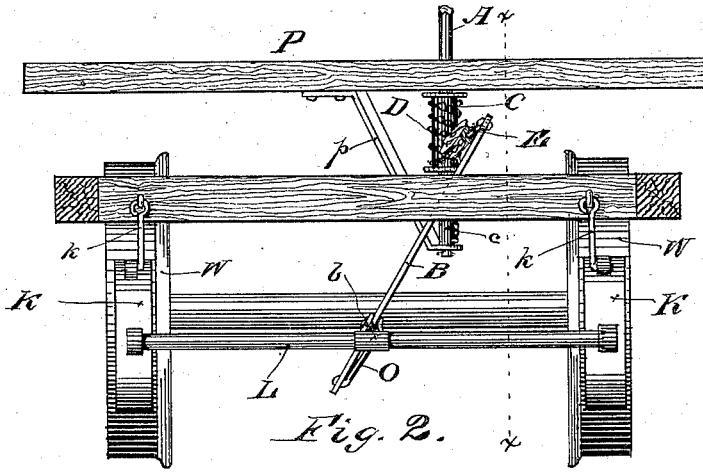


Fig. 2.

Witnesses:
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# UNITED STATES PATENT OFFICE.

WILLIAM HENRY TICE, OF INDIANAPOLIS, INDIANA.

## CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 344,694, dated June 29, 1886.

Application filed April 7, 1886. Serial No. 198,096. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM HENRY TICE, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Car-Brakes; 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 appertains to make and use the same.

My invention relates to car-brakes; and the objects of my invention are to make a brake that will remain "set" without the use of a cam and ratchet or other locking device, and to give increased leverage without increasing the diameter of the hand-wheel, thus increasing the power of the brake and the ease of manipulation. These objects I accomplish by the mechanism shown in the accompanying drawings, in which—

Figure 1 is a vertical longitudinal section through the line *x x;* Fig. 2, an end view of the car.

P is the platform of the car, and W the wheels.

A is a spindle fastened to the platform P, and projecting both above and below the platform.

*a* is a hand-wheel on the top end of the spindle.

C is a cylinder near the lower end of the spindle and turning with it, and *c* the end of the spindle below the cylinder C.

*p* is a bracket fastened to the platform and supporting the lower end of the spindle.

K are the brake-blocks to be pressed against the wheels W in stopping the car. These brake-blocks are hinged by the links *k* to the frame-work of the trucks, and are joined to the brake-blocks on the opposite wheels by the cross-bars L, in the ordinary manner.

*b* is a link connecting the shaft L with the lever B. The lower end of the lever B is connected with the front brake-blocks by the rod O, and the upper end is connected with the pulley D by the rod E.

The pulley D is connected with the spindle A by the chain E, which passes around the pulley, and has one end fastened to the cylinder and the other end to the lower part, *c*, of the spindle, in such a manner that when the chain is being wound up on the cylinder C it is being unwound from the spindle. This gives me a differential power, and by properly proportioning the diameters of the cylinder and spindle with relation to each other the brake can be made to hold in any position without slipping, and therefore without the necessity of a cam and ratchet. The leverage can be increased by lessening the difference between the diameters of the two parts C and *c*.

In practical operation the spindle A is turned by the hand-wheel *a*, which winds up the chain E and pulls the lever B, which in turn pulls on the bar O and link *b*, and presses the attached brake-blocks K against the car-wheels W.

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

The spindle A, having the cylinders C and *c*, of different diameters, the chain E, and the pulley D, forming a differential brake, in combination with the car-wheels W, brake-blocks K, and suitable connecting mechanism.

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

WILLIAM HENRY TICE.

Witnesses:
L. A. MINTURN,
GEO. N. UHLER.