A. E. HOVEY.

CAR-BRAKE.

No. 183,929. Patented Oct. 31, 1876.

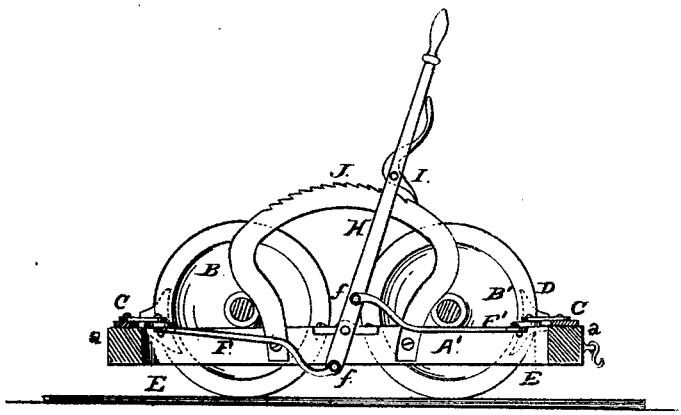

Fig. 1

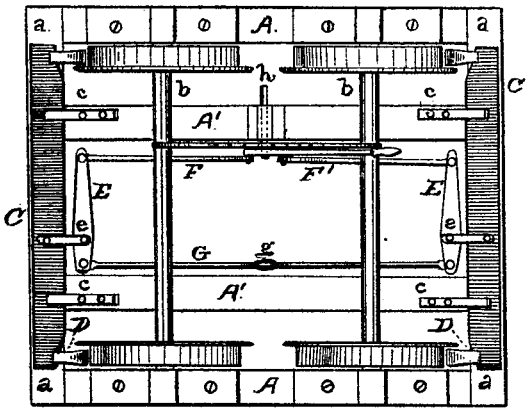

Fig. 2

Witnesses:

Edward C. Osborn

E. Patten.

Inventor:

Alva E. Hovey

By Wm. M. Smith

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UNITED STATES PATENT OFFICE.

ASA E. HOVEY, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR TO THE SUTTER STREET RAILROAD COMPANY.

IMPROVEMENT IN CAR-BRAKES.

Specification forming part of Letters Patent No. **183,929**, dated October 31, 1876; application filed September 22, 1876.

To all whom it may concern:

Be it known that I, ASA E. HOVEY, of the city and county of San Francisco, in the State of California, have invented an Improved Brake for Cars, Engines, and Vehicles, of which the following is a specification:

My invention relates to an improved friction-brake for cars, dummy-engines, and like vehicles, and is designed more particularly for use on the cars and carriages of traction-railways, where the grade of the road is more or less steep. It consists in the construction and arrangement of a double set of brake shoes and beams, with connection-rods, levers, and a means of operating them at the same time and with a single movement, whereby I am enabled to control both the front and hind wheels of the car or dummy in a perfect manner, as will hereinafter more fully appear.

The following description of the nature and operation of my invention is sufficiently full and clear to enable any one skilled in the art to make and use or apply the same, reference being had to the accompanying drawing and the letters of reference thereon.

Figure 1 is a side elevation, in section, of a dummy-car with my invention applied to it, the same being a longitudinal section through the line *x y*, Fig. 2; and Fig. 2 is a top or plan view of the truck or frame of a four-wheel dummy of the kind used in the propulsion of cars on endless-cable street-railways.

A A′ *a a* represent the side and end timbers of a dummy-car frame or truck, and B B the front and hind wheels upon the axles *b b*. C C are the brake-beams, having the shoes D D secured to them at each end. These beams move upon the end timbers of the truck toward and away from the wheels, and are connected with the progressive levers E E′ by means of the links *e e*. The fulcra of these levers E E′ are in line with each other, so that the long arm of one lever is exactly opposite the long arm of the other, and each of these arms to which the power is applied is connected with the hand-lever H by means of the rods F F′, one pivoted above and the other below the fulcrum *h*, so that a movement of the hand-lever H throws the long arms of the levers E′ E′ simultaneously toward or away from each other. The short arms of these levers E are joined by the strainer-rod G, that is made in two parts, with screw-threads on the ends, and united by a right-and-left-hand nut, *g*, so that the length of the rod may be altered to compensate for wear of the parts. The hand-lever H is pivoted to the truck at *h*, and works against a frame, J, secured to the dummy-frame. It has a pawl, I, that engages with a ratchet on the frame J, for holding the lever in position.

As thus constructed, my invention operates to apply a strong and effective brake to both sets of wheels simultaneously with one movement of the hand-lever; and from the arrangement of the levers and connection-rods the power applied to the lever H is greatly multiplied, whereby it enables me to hold the dummy and its car on a steep incline, as well as to stop it within a short distance. It may also be arranged with one or two brake-beams, and thus be used either as a single or a double brake.

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

In combination with the brake-beam of a car or dummy, the progressive levers E E′, the tension-rod G, the connection-rods F F′, pivoted to the levers and to the hand-lever H, and the lever H and its pawl-and-ratchet frame I J, or other equivalent means for holding it in position, all combined and arranged as and for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 21st day of August, 1876.

ASA EBENEZER HOVEY.

Witnesses:

EDWARD E. OSBORN,

WILLIAM HARNEY.