

(No Model.)

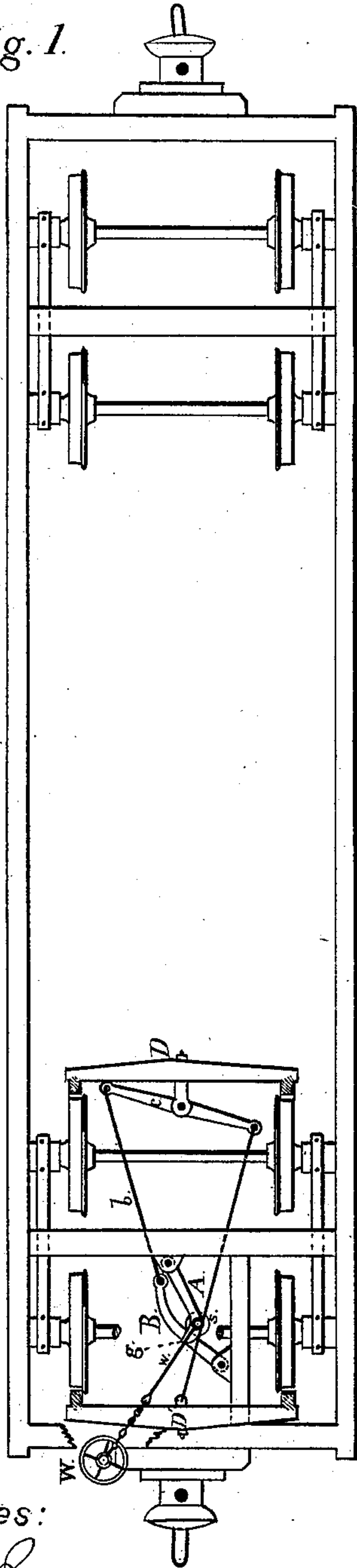
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A. BAILEY.
CAR BRAKE.

No. 255,482.

Patented Mar. 28, 1882.

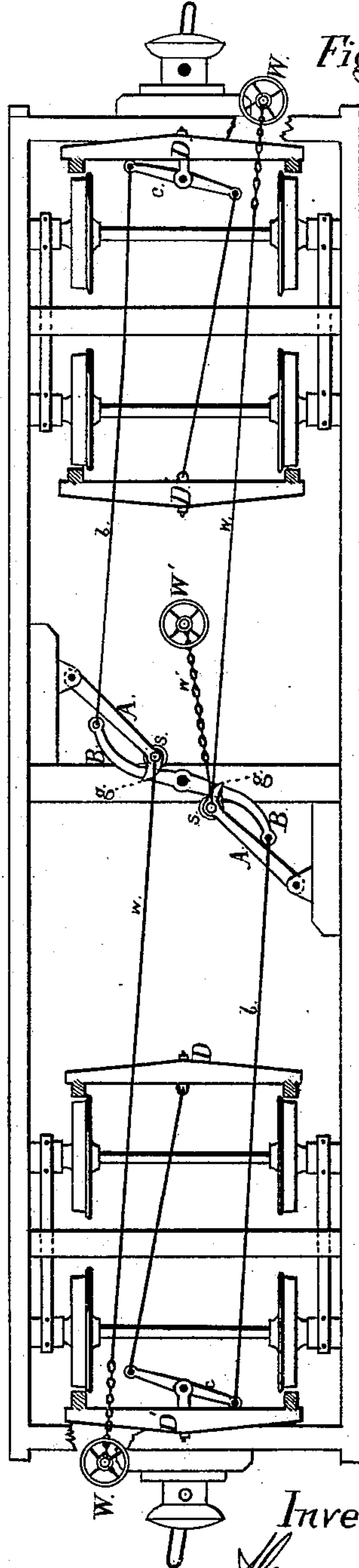
Fig. 1.



Witnesses:

Merley Royce
Wm. H. Hooper

Fig. 2.



Inventor:

Aaron Bailey.
By Munn Hall,
His Atty.

(No Model.)

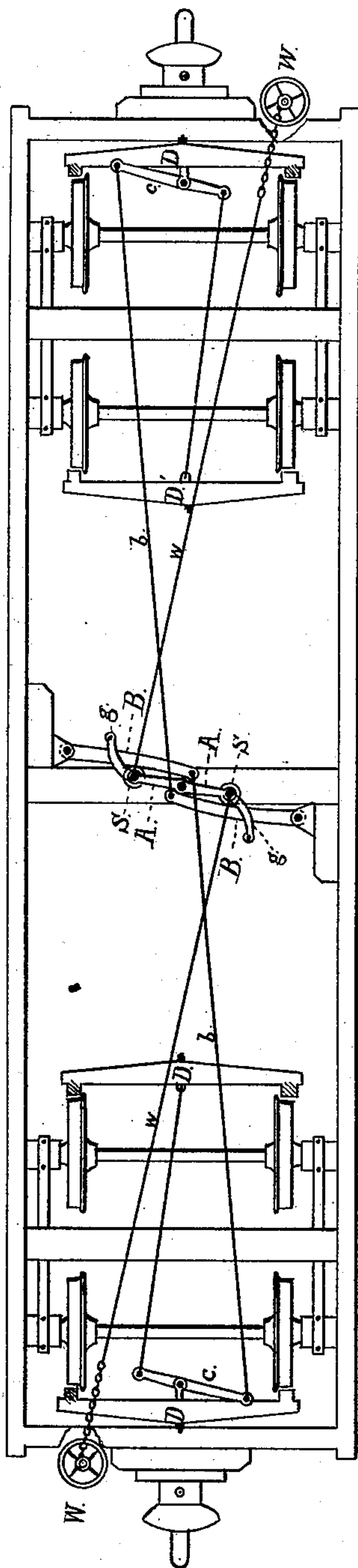
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Fig. 3.



Witnesses:
Wesley Royce
Wm. H. Hooper

Inventor:
A. Bailey
By A. H. Hall
His Atty.

UNITED STATES PATENT OFFICE.

ALANSON BAILEY, OF TOLEDO, OHIO.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 255,482, dated March 28, 1882.

Application filed February 11, 1882. (No model.)

To all whom it may concern:

Be it known that I, ALANSON BAILEY, of the city of Toledo, Ohio, have invented a new and useful Improvement in Car-Brakes, of which the following is a specification.

My invention relates to the arrangement and form of levers designed to operate car-brakes; and the objects of my invention are, first, by means of the form and arrangement of levers and bars hereinafter described, to provide means of operating car-brakes with greater force than is practicable with hand-brakes now in use; second, by such means to take up the slack in chains, brake-rods, and loose parts, rapidly at first, and then as the brakes are brought in contact with and tightened against the car-wheels more slowly in proportion to the greater power required, and by the same means in "letting off" brakes to accelerate their swing back to their original position, thus avoiding the waste of time and motion usual in bringing the brakes in contact with the car-wheels; and, third, by such means to shift the strain upon the parts of my device as the power varies. I attain these objects by the mechanism illustrated in the accompanying drawings, which are made part of this specification, in which—

Figure 1 is a top view and plan of my device as applied to a single car-truck, and Fig. 2 is a top view and plan of the same as extended and applied to both brakes of a car, and Fig. 3 is a top view and plan of another method of applying the same device to both trucks of a car.

Similar letters refer to similar parts throughout all of the figures.

In Fig. 1, A is a bar pivoted to a cross-beam at one end and having at its other end a sheave or pulley, s, this end of the bar A being connected with the windlass W by rod and chain w.

B is a lever pivoted and having its fulcrum at one end, and having attached to its other end brake-rod b. Lever B rests against and passes between guides or fingers g, formed by extensions of bar A. Upon the windlass W being turned and chain and rod w being tightened sheave s travels in the segment of a circle toward a right line between the windlass W and the pivot of bar A, and the sheave s rolls

upon and carries with it the lever B, which, pulling upon rod b, swings lever C, and by familiar and obvious means indicated in the drawings throws brakes D and D' against the car-wheels. At the commencement of this operation the power is applied near the fulcrum of the lever B, and consequently the other end of the lever B and its attached rod b move rapidly at first, and the slack in the brakes is quickly taken up; but as the sheave s travels toward the end of lever B, and as the lever and bar A approach a right angle to each other, the motion of the lever becomes slower and proportionately stronger, rendering the increased purchase available where it is most needed at the instant the shoes of the brakes come in contact with the car-wheels. It is apparent that at this point the purchase of the bar A upon the lever B may be made to depend partly upon the degree of curve in the lever, though my invention is not restricted to a curved lever. The curve referred to is also designed as a stop for sheave s, and to aid in starting the brakes back to their place when let off.

In Fig. 2 the device above described is extended or doubled, so as to operate on the forward and rear trucks of the car simultaneously by windlass placed at either end of the car, or windlass placed inside the car for use in cabooses or baggage cars, as shown at W'. In Fig. 2 lever B is placed near the center of the car, and is pivoted and has its fulcrum at its middle, and each arm of this lever is in contact with a sheave, s, of a bar, A. When either of the bars A in Fig. 2 is drawn by its windlass toward the lever B the lever is caused to swing upon its center and the rods b b pull upon levers C C, and all of the brakes are set against the wheels, rapidly at first, and later with the same retarded motion and increased power as described in the first instance. When the brakes are let off their return motion is accelerated by the reversal of the differential process above described. It will be observed that, regarding sheave s as a movable fulcrum, the arm of the lever attached to rod b is shortened and thus relieved gradually as the strain increases upon it, and that the strain upon bar A, when the brakes are set and the greatest force applied, is endwise, or nearly so. In Fig. 3 the

same result is obtained by pivoting the bar A at its center and having sheaves *s s* at its either end, with the curved levers B B passing through guides *g g* and resting against sheaves *s s*. Upon winding either windlass the pivoted arm A swings upon its center, and the curved pieces B B, having brake-rods *b b* attached thereto, sliding on sheaves *s s*, are spread apart, and the operation of setting the brakes by the connecting-rods and levers already indicated is performed with the same increasing power and decreasing motion above described.

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

1. In a car-brake, the pivoted arm or bar A, provided with sheave *s* and guide *g*, substantially as shown, for the purposes specified.

2. In a car-brake, the lever B, in combination with the bar A, sheave *s*, windlass W, and rod and chain *w*, substantially as shown and described, for the purposes specified.

ALANSON BAILEY.

Witnesses:

CLARENCE BROWN,
W. H. HARRIS.