

(No Model.)

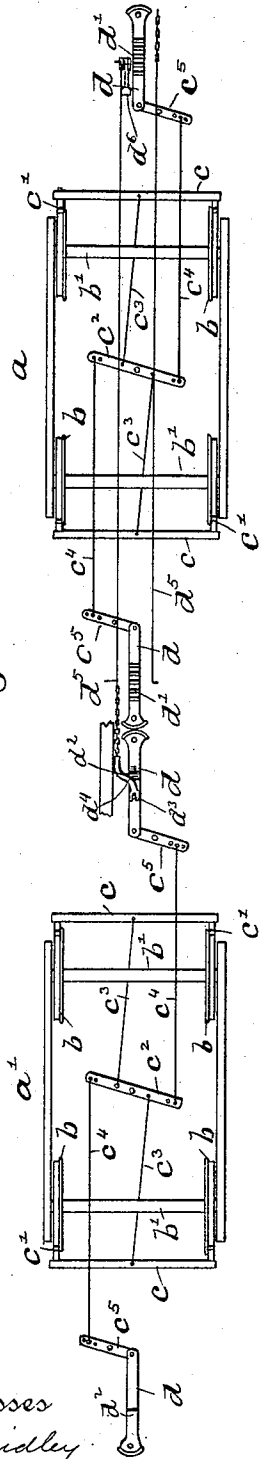
2 Sheets—Sheet 1.

A. E. WILDMAN.
AUTOMATIC BRAKE FOR RAILWAY CARS.

No. 565,248.

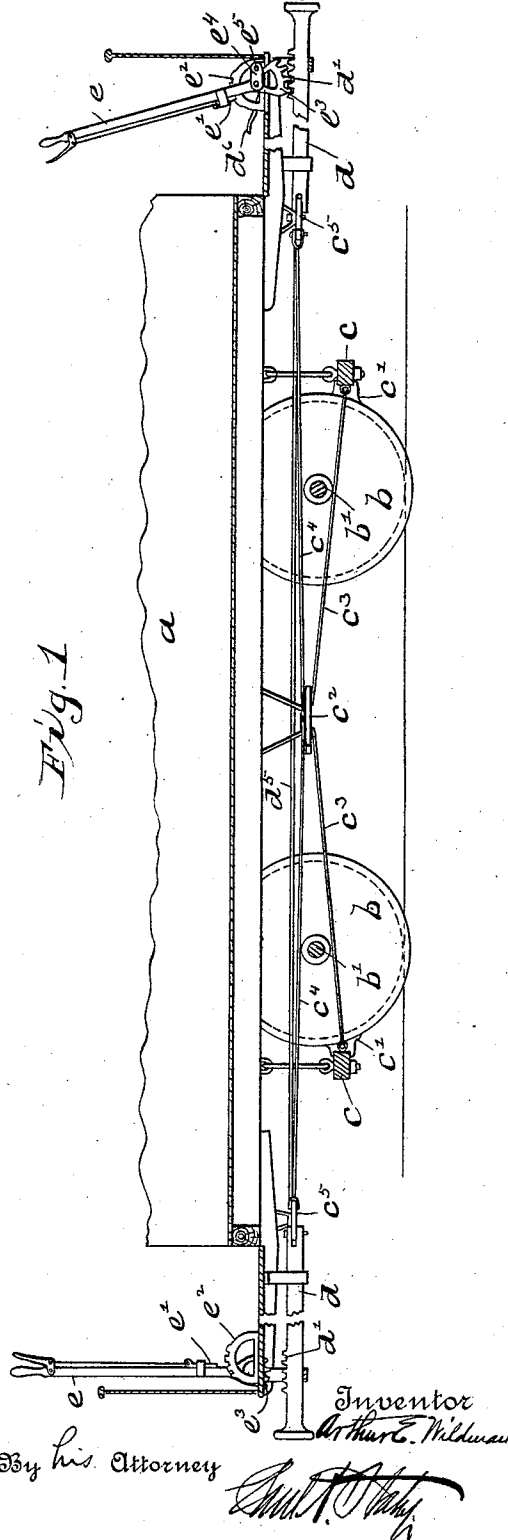
Patented Aug. 4, 1896.

Fig. 2



Witnesses
J. M. Gridley
Chas. J. Nohle

Fig. 1



By his Attorney

Inventor
Arthur E. Wildman

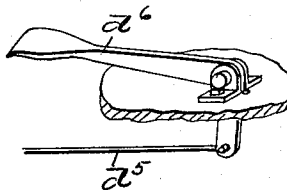
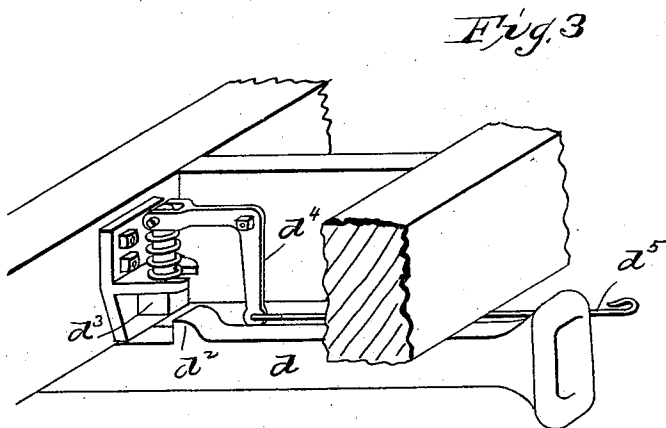
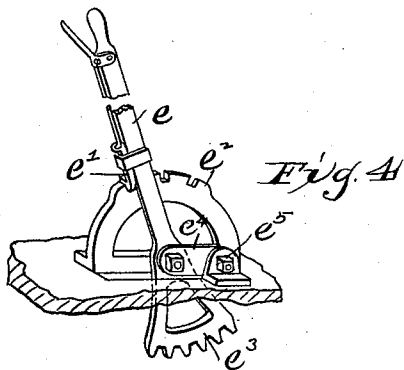
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G. M. Gridley
Chas. J. Welch

Inventor
Arthur E. Wildman
By his Attorney
Paul M. O'Brien

UNITED STATES PATENT OFFICE.

ARTHUR E. WILDMAN, OF SELMA, OHIO.

AUTOMATIC BRAKE FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 565,248, dated August 4, 1896.

Application filed November 11, 1895. Serial No. 568,642. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR E. WILDMAN, a citizen of the United States, residing at Selma, in the county of Clark and State of Ohio, have invented certain new and useful Improvements in Automatic Brakes for Railway-Cars, of which the following is a specification.

My invention relates to improvements in automatic brakes for railway-cars, and is especially adapted for trailer-cars on street-railways.

My invention consists in the constructions and combinations of parts hereinafter described, and set forth in the claims.

In the accompanying drawings, Figure 1 is a sectional elevation of a portion of a car to which my improved device is shown attached. Fig. 2 is a diagrammatic view in the nature of a plan view, showing the connections between the motor-car and the trailer-car. Fig. 3 is a perspective view in detail of the coupling devices and some of the connecting mechanism. Fig. 4 is a perspective view in detail of the brake-operating lever.

Like parts are represented by similar letters of reference in the several views.

In the said drawings, *a* and *a'* represent cars of any well-known construction, *b* the track-wheels; and *b'* the axles of the same, the track-wheels having adjacent thereto the usual brake-beams *c*, supplied with the usual brake-shoes *c'*, and the cars are further provided at each end with draw-bars *d d*, through the medium of which the cars are adapted to be connected together in the usual manner.

Pivoted on the bottom of each car, preferably about central between the respective axles, is a lever *c²*, connected on opposite sides of its pivoted center by any suitable connecting devices *c³* to the respective brake-beams. From opposite ends of this brake-lever *c²* there extend suitable connecting devices, such as rods or chains *c⁴*, which are connected at their remaining ends to pivoted levers *c⁵*, preferably near the respective ends of the car. These levers *c⁵* being in turn pivotally connected at their remaining or free ends to the draw-bars *d d*, the connections being such that an inward movement of either of the draw-bars operates through the connections thus described to draw the brake-beams *c*

toward the respective track-wheels, and thus set the brakes. The result of this construction is that when two or more cars are connected together the brakes of the rear or trailer cars will be automatically set whenever the conditions are such as will cause the rear cars to run at an increased speed over the front or motor car, so that the brakes will be automatically applied in descending grades or whenever the speed of the motor-car is slackened, so as to cause the rear cars to advance toward the same.

To provide simple and effective means for operating the brakes by hand, and, further, to prevent the brakes from being operated automatically when desired, I preferably employ a brake-lever *e*, mounted on the respective platforms of the car and provided with the usual holding-pawl and segment *e' e²*, by means of which it may be held in different positions. This lever, which is pivoted above the platform, is projected through the same, and has thereon a segment *e³*, adapted to engage with a rack *d'*, formed on or connected to the draw-bar *d*, the construction being such that when the lever is held in engagement with said rack the brakes may be operated by hand by moving the draw-bar in either direction. At the same time if the lever is locked in any position the draw-bar will be prevented from operating the brakes automatically. Means, however, are further preferably provided by which the action of the brakes on the trailer-car may be controlled by the operator on the motor-car, so that they may act automatically or be prevented from acting, as desired. To accomplish this, I employ a locking device by which the inward movement of the respective draw-bars *d* is limited, so as to not set the brakes when so locked. This may be accomplished, as shown in Fig. 3, by constructing the draw-bar with a lug or projection *d²*, adapted to be engaged by a spring-bolt *d³*, secured to a suitable portion of the car-frame and connected by means of a bell-crank *d⁴* and rod *d⁵* to a foot-lever *d⁶* on the operator's floor or platform of the motor-car. By this construction the operator, by placing his foot on the foot-lever *d⁶*, may lock the draw-bars of the rear or trailer cars and thus prevent the operation of the brakes when so desired, as, for

instance, in backing the train, the bell-crank d^4 and the foot-lever d^6 being pivoted to the framework or floor of the car and platform, respectively, in any suitable manner; for example, as illustrated in Fig. 3.

To provide for throwing the hand-brake-operating device out of use, I have preferably pivoted the hand-lever e in the end of a link e^4 , which in turn is pivoted at its opposite end, as shown at e^5 , to a part of the platform or frame, the construction being such that by pulling upwardly on the lever until the pivoted points have passed the centers the lever will be thrown upwardly, so as to disengage the rack of the draw-bar, as shown at the left or rear end of the car in Fig. 1.

It is obvious that other means may be employed for operating the brakes by hand, if desired, which shall be capable of being connected to the same brake-operating mechanism and be capable of operation without interfering with the automatic operation of the brakes through the medium of the draw-bars.

Having thus described my invention, I claim—

1. The combination with two or more cars and their brake-operating mechanism, of a draw-bar connected to said mechanism so as to operate said brakes by an inward movement of said draw-bar, and a hand-brake-operating device adapted to be connected and disconnected to said brake mechanism, substantially as specified.

2. The combination with two or more cars and the brake-operating mechanism, movable draw-bars on said cars connected to said mechanism so as to operate the brakes by an inward movement of said draw-bars, a locking device for said draw-bars, and a connection from the locking device of one car to an op-

erating device on the other car, substantially as specified.

3. The combination with a car, its track-wheels, and the brake mechanism thereof, of a movable draw-bar connected to said brake mechanism, and a pivoted lever adapted to be connected to and disconnected from said draw-head, and means for holding said pivoted operating-lever in different positions of adjustment when engaged with said draw-bar, substantially as specified.

4. The combination with a draw-bar having a rack connected thereto, and a pivoted hand-lever having a segment to engage said rack, means for holding said hand-lever in different positions of adjustment, and a connection from said draw-bar to the brake mechanism of said car, substantially as specified.

5. The combination with a draw-bar having a rack connected thereto, a hand-lever having a segment to engage said rack, said hand-lever being pivoted in a movable support so as to be withdrawn from engagement with said rack, and a connection from said draw-bar to the brake mechanism, substantially as specified.

6. The combination with a car and its draw-bar, a brake mechanism connected to said draw-bar so as to be operated by the movement thereof, a locking device for locking said draw-bar against inward movement, as described, and a hand-lever adapted to be connected or disconnected from said draw-bar, substantially as specified.

In testimony whereof I have hereunto set my hand this 25th day of October, A. D. 1895.

ARTHUR E. WILDMAN.

Witnesses:

STEPHEN M. KELLEY,
R. G. CALVERT.