No. 771,585. PATENTED OCT. 4, 1904.

E. STEVENS.

CAR BRAKE.

APPLICATION FILED MAR. 30, 1904.

NO MODEL.

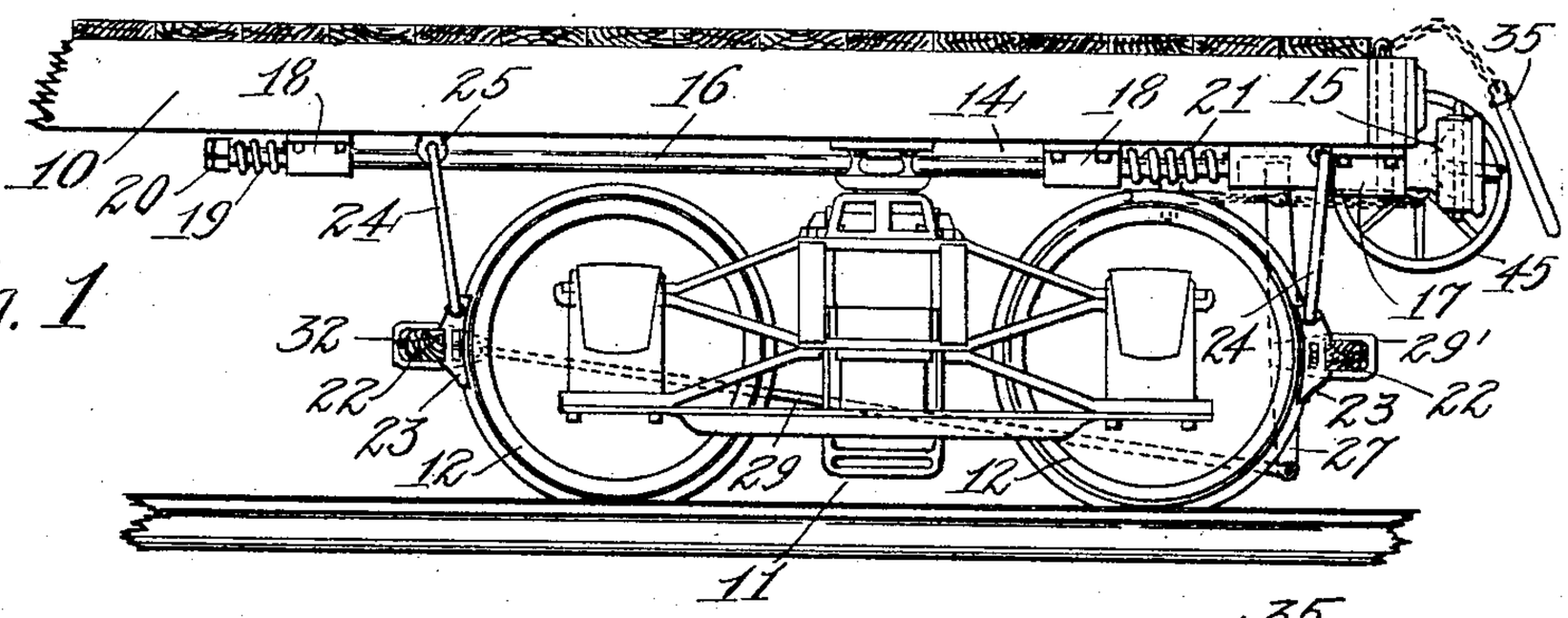

Fig. 1

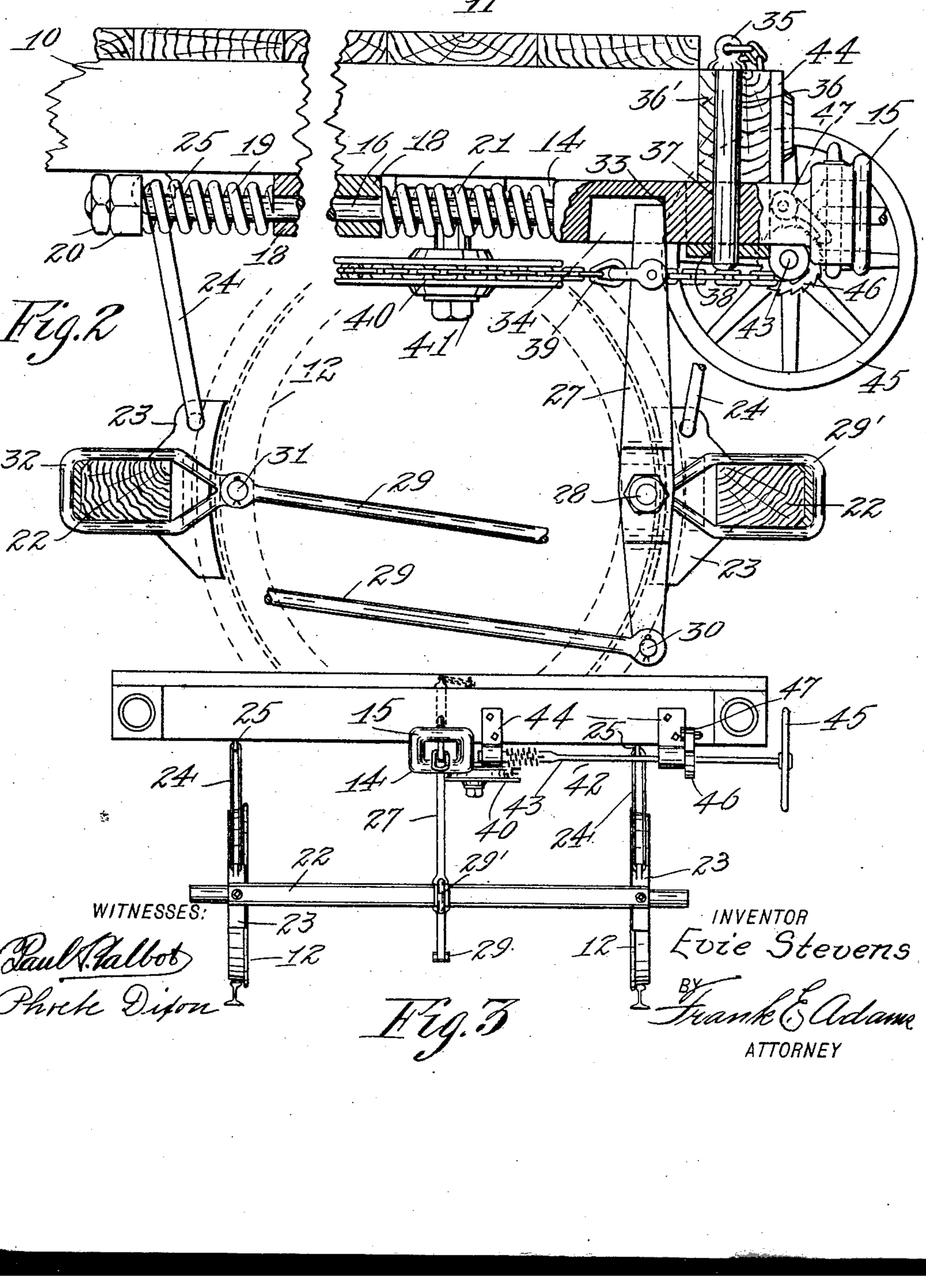

Fig. 2

Fig. 3

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No. 771,585. Patented October 4, 1904.

UNITED STATES PATENT OFFICE.

EVIE STEVENS, OF MONROE, WASHINGTON.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 771,585, dated October 4, 1904.

Application filed March 30, 1904. Serial No. 200,787. (No model.)

To all whom it may concern:

Be it known that I, EVIE STEVENS, a citizen of the United States of America, and a resident of the town of Monroe, in the county of Snohomish, in the State of Washington, have invented certain new and useful Improvements in Car-Brakes, of which the following is a specification.

My invention relates to improvements in car-brakes, and has for its objects to provide simple and inexpensive means for operatively connecting the ordinary brakes and draw-bars of freight cars or trucks in such a manner that the brakes will be applied when the draw-bars are forced inwardly and will also be free for application by auxiliary means.

The above-mentioned and other desirable objects are attained by the construction, combination, and arrangement of parts as disclosed on the drawings, set forth in this specification, and pointed out in the claims.

With reference to the drawings filed herewith and bearing like reference characters for corresponding parts throughout, Figure 1 is a view in side elevation of one end portion of an ordinary flat-car equipped with ordinary brakes and draw-bar and shows my improvements. Fig. 2 is a fragmentary longitudinal section showing portions of the car, draw-bar, and brakes and my improvements connected therewith; and Fig. 3 is an end view of the car shown with the bolster removed and the improvements in place.

Referring to the drawings, the reference-numeral 10 indicates the deck of an ordinary flat-car, 11 one of the trucks of the car, and 12 the truck-wheels. Beneath the deck of the car is an ordinary draw-bar 14, consisting of a head part, as 15, and a stem part 16, extending rearwardly from the head. This draw-bar is slidably supported for longitudinal movement in the ordinary manner by a bearing 17, fastened to the under surface of the deck of the car and receiving the head end of the bar, and bearings 18, which receive the stem of the bar and one of which is secured to the deck of the car adjacent the inner end of the head end of the bar and the other secured to the deck adjacent the rear end of the stem. Seated on the rear end of the stem of the bar is an open coil-spring 19, which is confined against the rear bearing 18 by suitable set-nuts 20, engaged with screw-threads on the stem and yieldingly holds the draw-bar retracted, and an open coil-spring 21 is seated on the stem of the bar between the forward bearing 18 and the inner end of the head part of the draw-bar, so as to act as a yielding buffer or cushion for the draw-bar when forced inwardly relatively to the end of the car-deck.

Reference-numeral 22 indicates ordinary horizontal brake-beams arranged at each end of the truck and attached to brake-shoes 23, which are swingably supported by hangers 24, consisting of links of the ordinary form pivotally engaged with the shoes and with eye-bolts 25, fastened to the deck of the car at suitable points to permit the weight of the shoes and bars to swing the hangers to clear the shoes of the truck-wheels 26, as in the ordinary brakes of this type.

Mounted on the outer brake-beam 22 directly beneath the draw-bar is a vertically-disposed lever 27, which is pivotally supported intermediate its ends on a horizontal pivot consisting of a bolt 28, secured to a strap 29′, fastened about the said brake-beam. Leading from the lower end of this lever to the opposite brake-beam is a draw-rod 29, which is engaged at one end with a horizontal pin 30, passed through the lever, and at the opposite end with a pin 31, fastened in a strap 32, embracing the last said beam.

Upon the draw-bar a suitable shoulder, as 33, is provided to engage the upper end of lever 27 and swing same inwardly at said end when the draw-bar is forced inwardly from normal position relatively to the end of the car, as would be the case, for example, when the train is traveling downgrade and the brakes of the leading member, as the engine, are applied to check the speed of the train. This shoulder is conveniently incorporated as the outer end wall of an elongated recess 34, which is formed in the under side of the head end of the draw-head at a suitable point to receive freely the end of the lever, and this slot is of suitable length to permit

the lever to be moved inwardly at the upper end by auxiliary means which will be later set forth.

To conveniently lock the draw-bar from inward movement, so that the brakes will not be applied in backing the car, I have provided a lock-pin 35, which is removably fitted to suitable corresponding apertures 36, 37, and 38, formed, respectively, in the end beam 36′ of the car-deck, in the draw-bar, and in the bearing 17, and which apertures stand in alinement when the draw-bar is resting in normal position, so that the pin can be inserted therein to lock the draw-bar when desired.

The auxiliary means heretofore referred to for operating the lever 27 comprises a section of chain 39, attached at one end to the upper end of the lever, an idler 40 for said chain rotatably mounted on a vertically-disposed axle 41, secured to the under side of the car-deck inwardly from the lever, and a take-up 42 for the chain arranged at the end of the car. This take-up comprises a horizontally-disposed spindle 43, engaged with said chain and rotatably supported in suitable brackets 44, fastened to the end of the car, a hand-wheel 45, fixedly mounted on said spindle, a ratchet-wheel 46, and a pawl 47, respectively mounted on the spindle and car and arranged to prevent backlash of the spindle.

It will be understood that the brake-shoes normally hang clear of the tires of the truck-wheels and that the lever 27 is free for inward movement at the upper end when the draw-bar is advanced and also when it is resting in normal position and that the shoulder 33 is suitably disposed to move the lever 27 inwardly when the draw-bar is forced inwardly from normal position and thus swing the lower end of the lever outwardly, so that the brake-beams are moved toward each other through the medium of rod 29, and the shoes thereby brought to bear upon the truck-wheels. Furthermore, it is apparent that the lever 27 can be operated to apply the brakes when the draw-bar is in normal position or when advanced by operating the spindle 43 through the medium of hand-wheel 45 in the proper direction to take up the chain 39.

This apparatus is especially useful on freight cars or trucks employed to transport logs from a logging center where the haul out is made down a grade, as by checking the speed of the leading member of the train the cars are brought to rest against the springs 21 and compress same, and thus shift the cars and draw-bars from their normal relative positions, so as to cause the shoulders 33 on the draw-bars to move the levers 27 inwardly, and thereby apply the brake-shoes to the wheels, and thus check the train without requiring the attention of a brakeman on the rear cars. When the cars are to be backed, the lock-pins 35 are inserted in place to prevent inward movement of the draw-bars, and when the cars are traveling on a level haul or when left on an inclined track the take-ups 42 can be employed to apply the brakes, if desired, though a sudden checking of the speed of the engine will serve to apply the brakes when the train is on a level grade, as the momentum of the cars will then force them to move toward each other, and when the slack between the opposing draw-heads has been taken up the springs 21 will yield inwardly and the brakes will be applied, as when the cars are traveling down a grade.

The lever 27 and rod 29 can be readily applied to cars or trucks equipped with the ordinary types of brakes and draw-heads, as shown without requiring any changes in the brakes, and by their use the labor of operating the train is materially reduced.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States of America, is—

1. The combination with a car-deck, a truck having wheels, brake-beams at opposite ends of the truck, brake-shoes for said wheels swingably supported from the deck and attached to said beams, and a draw-bar slidably mounted on said deck and yieldingly held from inward movement, of a lever pivotally mounted intermediate the ends on the outer one of said beams and engaged at one end with said bar for inward movement therewith, and a rod connected with the opposite end of said lever and with the opposite beam.

2. The combination with opposite brake-beams, and a draw-bar yieldingly held from inward movement, of a lever pivotally mounted intermediate the ends on one of said beams and engaged at one end with said bar for inward movement therewith, and a rod connected with the opposite end of said lever and with the other of said beams.

3. The combination with a car-deck, a truck having wheels, brake-beams at opposite ends of the truck, brake-shoes for said wheels swingably supported from the deck and attached to said beams, and a draw-bar slidably mounted on said deck and yieldingly held from inward movement, of a lever pivotally mounted intermediate the ends on the outer one of said beams and engaged at one end with said bar for inward movement therewith, a rod connected with the opposite end of said lever and with the opposite beam, and means to lock said bar from inward movement.

4. The combination with a car-deck, a truck having wheels, brake-beams at the opposite ends of the truck, brake-shoes for said wheels swingably supported from the deck and attached to said beams, and a draw-bar slidably mounted on said deck and yieldingly held from inward movement, of a lever pivotally mounted intermediate the ends on the outer one of said beams and engaged at one end with said bar for inward movement therewith, a rod connected with the opposite end

of said lever and with the opposite beam, means to operate said lever independently of said bar and means to lock said bar from inward movement.

5. The combination with a car-deck, a truck having wheels, brake-beams at opposite ends of the truck, brake-shoes for said wheels swingably supported from the deck and attached to said beams, and a draw-bar slidably mounted on said deck and yieldingly held from inward movement, and having a shoulder, of a lever pivotally mounted intermediate the ends on the outer one of said beams and engaging at one end with said shoulder for inward movement with said bar, and a rod connected with the opposite end of said lever and with the opposite beam.

6. The combination with a car-deck, a truck having wheels, brake-beams at opposite ends of the truck, brake-shoes for said wheels swingably supported from the deck and attached to said beams, and a draw-bar slidably mounted on said deck and yieldingly held from inward movement, and having an elongated slot, of a vertically-disposed lever pivotally mounted intermediate the ends on the outer one of said beams and engaging at the upper end with the outer end wall of said slot for inward movement with said bar, a rod connected with the opposite end of said lever and with the opposite beam, and means to move said lever inwardly at the upper end independently of said bar.

7. The combination with a car-deck, a truck therefor having wheels, brake-beams at opposite ends of the truck, brake-shoes for said wheels swingably supported from the deck and attached to said beams, a draw-bar slidably mounted on said deck and yieldingly held from inward movement, and a take-up mounted on the adjacent end of said deck, of a vertically-disposed lever pivotally mounted intermediate the ends on the outer one of said beams and engaged at the upper end with said bar for inward movement therewith, a rod connected with the opposite end of said lever and with the opposite beam, means to lock said bar from inward movement, an idler mounted on the car inwardly from said lever, and a chain connected at one end with the upper end of said lever and leading about said idler and connected with said take-up.

8. In combination with a movable draw-bar, a plurality of brake-beams, and means for operating said brake-beams simultaneously with the movement of said draw-bar, a locking means for preventing movement of said draw-bar.

9. In a car-brake, a draw-bar formed with an aperture, means for slidably supporting said draw-bar, and a locking-pin projecting through said supporting means and engaging the aperture of said draw-bar.

Signed at Monroe, Washington, this 11th day of March, 1904.

EVIE STEVENS.

Witnesses:
JOHN WELCH,
ED BURDASH.