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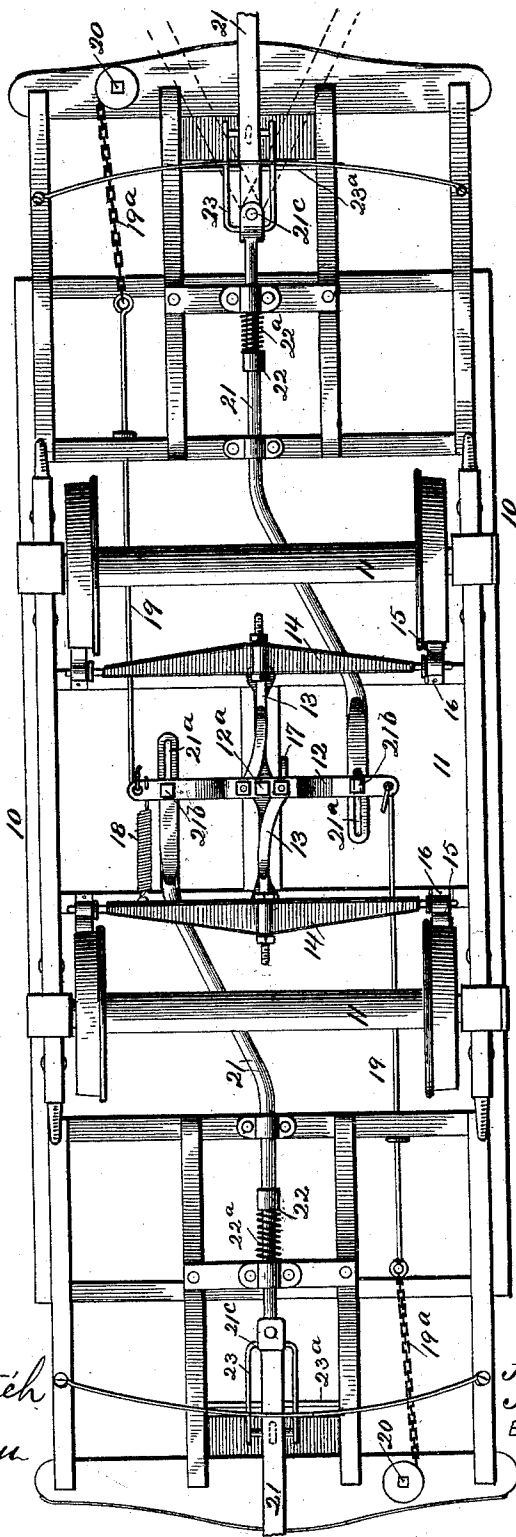
2 Sheets—Sheet 1.

J. W. NEUMANN & J. R. PFLANZ.
CAR BRAKE.

No. 487,151.

Patented Nov. 29, 1892.

Fig. 1.



WITNESSES:
Fred G. Dietrich
Joe. A. Ryan

INVENTOR:
John W. Neumann
John R. Pflanz
BY *Wm. L. G.*
ATTORNEYS

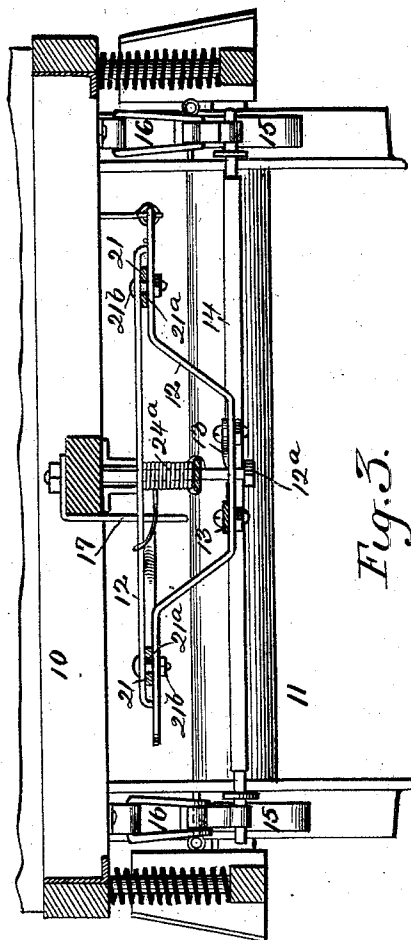
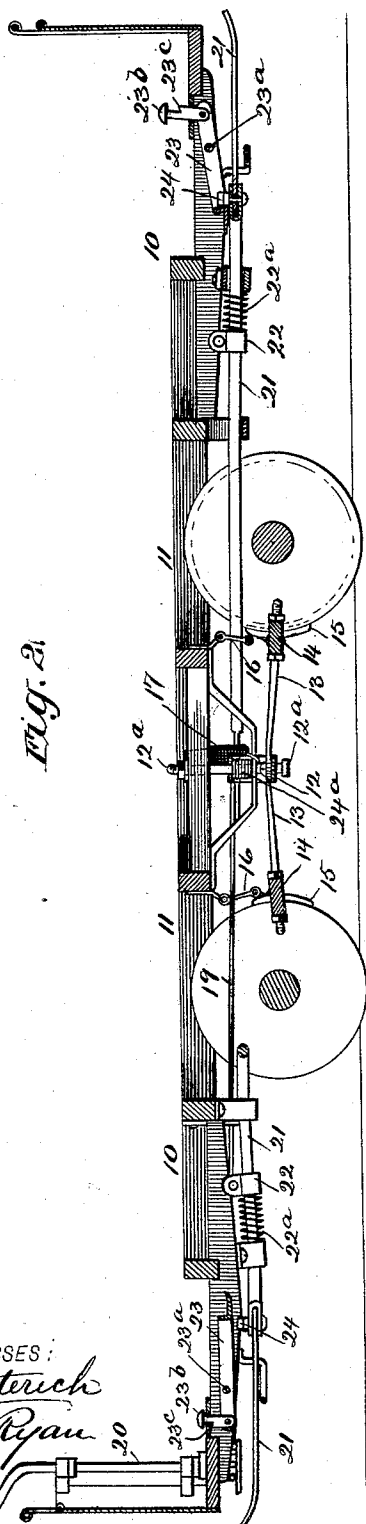
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2 Sheets—Sheet 2.

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ATTORNEYS

UNITED STATES PATENT OFFICE.

JOHN W. NEUMANN AND JOHN R. PFLANZ, OF LOUISVILLE, KENTUCKY.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 487,151, dated November 29, 1892.

Application filed May 5, 1892. Serial No. 431,955. (No model.)

To all whom it may concern:

Be it known that we, JOHN W. NEUMANN and JOHN R. PFLANZ, residing at Louisville, in the county of Jefferson and State of Kentucky, have invented certain new and useful Improvements in Car-Brakes, of which the following is a specification.

This invention relates generally to car-brakes, and particularly to a combined hand and automatic mechanism for operating the same.

The objects of our invention are, first, to provide a draw-bar that is capable of operating the brakes automatically under certain conditions and one that also can be locked to provide a perfectly-rigid draw-bar; secondly, to provide a combined draw-bar and brake-operating rod that can be operated while the cars are rounding curves; thirdly, to provide a brake-operating mechanism that can be operated by hand or automatically or by both at the same time; fourthly, to compensate for the wear of the brake-shoes and wheels; fifthly, to provide means to avoid jerks when the cars are started.

With these various objects in view our invention consists in the peculiar construction of the several parts and the novel combination or arrangement of the same whereby these objects are accomplished, as hereinafter fully described, and pointed out in the claims.

In the drawings forming a part of this specification, Figure 1 is a bottom plan view of our improved brake as applied to a car. Fig. 2 is a central longitudinal section, and Fig. 3 is a central transverse section.

In carrying out our invention we employ the usual framework 10, forming a part of the car-bottom and supported upon the truck 11. A brake-lever 12 is pivoted centrally between the axles of the truck upon a bolt 12^a and normally rests parallel with said axles. Brake-arms 13 are pivotally connected at their inner ends with the lever 12 upon opposite sides of its pivot, and the outer ends of these arms are adjustably connected to the central portions of the brake-beams 14, carrying the shoes 15 at their ends, which shoes are pivotally suspended from the framework 10 by means of the suspending-brackets 16. A stop-plate 17 depends from the framework, and against which one end of the lever rests. A spring 18

is connected with the opposite end of the lever, said spring being also secured to the framework, and serves to hold the lever against the stop-plate or to return it thereto after the brakes have been released.

The brake-lever can be operated by hand power or automatically by the impetus of the car, or both at the same time, if necessary.

In order to operate the lever by hand, we attach draft-rods 19 to the opposite ends of the lever, said rods having chains 19^a secured to their outer ends, and we provide the usual vertical brake-shafts 20, upon which these chains are wound to operate the lever. It will therefore be seen that by revolving the shaft at either end of the car the brake-lever will be operated, forcing the arms outward, spreading the beams, and applying the shoes to the wheels, and it will also be observed that as soon as the shaft is released the spring 18 will cause the lever to assume its normal position, and thus withdraw the shoes from the wheels. The brake-arms being adjustable within the beams, any wear upon the shoes or wheels can be readily taken up.

To provide an automatic brake, we employ the combined draw-bars and brake-operating rods 21, said rods being arranged in suitable guides attached to the bottom of framework. The inner ends of the rods 21 are curved in opposite directions, slotted longitudinally, as shown at 21^a, and connected with the opposite ends of lever by means of bolts 21^b, passing through said lever and slot. The draw-bars are each made in two sections, the inner section being movable only in a longitudinal direction, while the outer or end sections are capable of longitudinal movement and are also free to swing about their pivots 21^c, which connect them to the inner sections. Collars 22 are secured upon the inner sections of the rods 21, and between said collars and the end guides are arranged coiled springs 22^a, and as the rods 21 are adapted for use as draw-bars these springs will prevent any sudden jerk when the cars are started. The inner ends of the draw-bars being slotted, said bars can be moved outward in drawing cars without applying the brakes; but should the motor-car or any car in the train be braked by hand the cars to the rear thereof will be braked automatically by the draw-bars being forced in-

ward and applying the brake-lever in the same manner as would be done by the draft-rods and chain. The draw-bars and rods, being slotted, will not operate the brake-levers except when forced inward, and as it is sometimes desirable to lock this bar against longitudinal movement we provide for the same by means of the locking bail or strap 23, pivoted near its forward end upon a shaft 23^a, the rear end of said bail or strap being adapted to drop by its own weight back of a projection 24, produced upon the inner section of the draw-bar, and thus hold said bar against inward movement. A pusher-bar 23^b is attached to the forward end of locking-bail and projects upward through the dash-floor, so that it can be operated by the driver's foot when it is desired to release the draw-bar, and in order to hold the bail out of engagement with the projection we provide a shoulder 23^c upon the pusher-bar, which engages the bottom of dash and holds the rear end of bail above the projection. It will thus be seen that we provide a combined hand and automatic mechanism for operating the brake-lever, and though essentially independent of each other are yet capable of use together at one and the same time. We also provide combined draw-bars and operating-rods, one or both of which can be locked when desired, and by means of the outer pivotal section of draw-bars they are capable of operating the brakes while rounding curves.

If desired, the spring 18 may be dispensed with and a spring 24 coiled around the pivotal bolt used instead; but in this case a curved bar 25 is secured to bottom of car, one end of the coiled spring being connected with the said bar, while the other bears upon the lever and thus holds it against the stop-plate.

Having thus described our invention, what we claim is—

1. In a brake, the combination, with a brake-lever, of a combined draft-bar and brake-operating rod connected therewith, said combination-bar being composed of two sections, the outer one of which is adapted to swing horizontally upon its pivotal connection with the inner section, which inner section is connected with the brake-lever.

2. The combination, with the brake-operating lever, of the combined draft-bar and brake-rod connected with said lever and capable of

operating the lever when moved inward and capable of moving outward without operating the lever, substantially as shown and described.

3. The combination, with a brake-lever, of a combined draft-bar and brake-rod slotted at its inner end and connected with the brake-lever, the outer end of the rod being jointed and free to turn, whereby the brake-lever can be operated while rounding curves, substantially as shown and described.

4. The combination, with a brake-lever, of the brake-bars connected thereto on opposite sides of the pivot, said bars being threaded at their outer ends, the brake-beams arranged upon said ends, and the adjusting-nuts secured upon the threaded ends on each side of the beams, substantially as shown, and for the purpose described.

5. The combination, with the brake-lever, stop-plate, and return-spring, of the brake arms and beams and draft-rods, all arranged substantially as shown and described.

6. The combination, with the brake-lever, of the combined draw-bars and operating-rods slotted at their inner ends and connected to the opposite ends of the brake-lever, each of said combined rods or bars being adapted to be locked against longitudinal movement, substantially as and for the purpose described.

7. The combination, with the brake-lever, of the combined draw-bar and rod having an upward projection near its forward end, the locking-bail, and the pusher-bar connected thereto, all arranged substantially as shown and described.

8. The combination, with a brake-lever, of the combined draw-bar and rod having an upward projection, the locking-bail, the pusher-bar connected thereto, and the locking device for said pusher-bar, substantially as shown and described.

9. The combination, with the brake-lever, of the brake arms and beams, the draft-bars, and the combined draw-bars and operating-rods connected with the opposite ends of the levers and extending in opposite directions, substantially as shown and described.

JOHN W. NEUMANN.
JOHN R. PFLANZ.

Witnesses:

W. E. BUCKEL,
CHARLES SOUTHWICK.