(No Model.)

W. TIMMIS.

COMBINED TRACK AND WHEEL BRAKE.

No. 598,966. Patented Feb. 15, 1898.

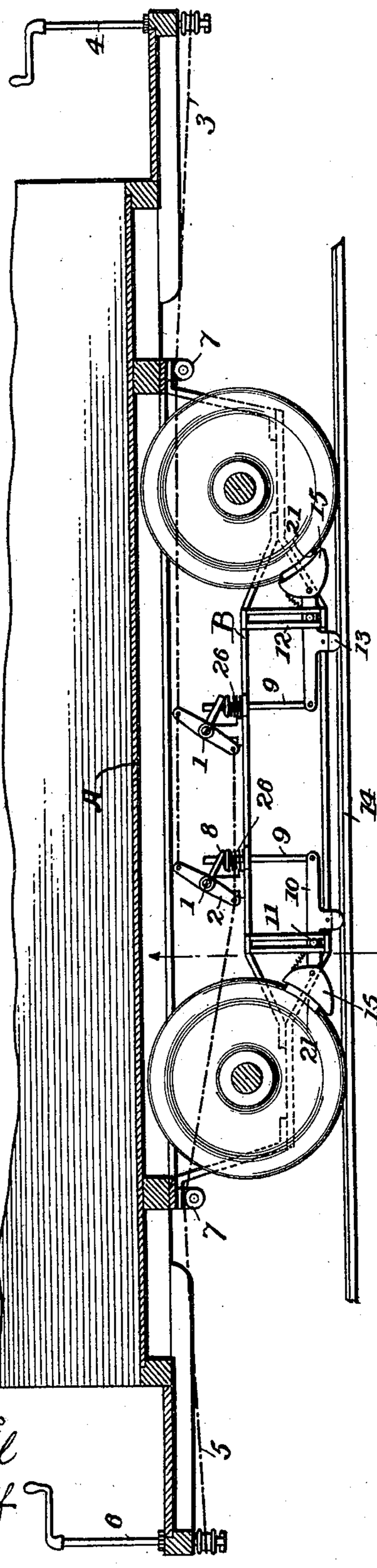

Fig. 1.

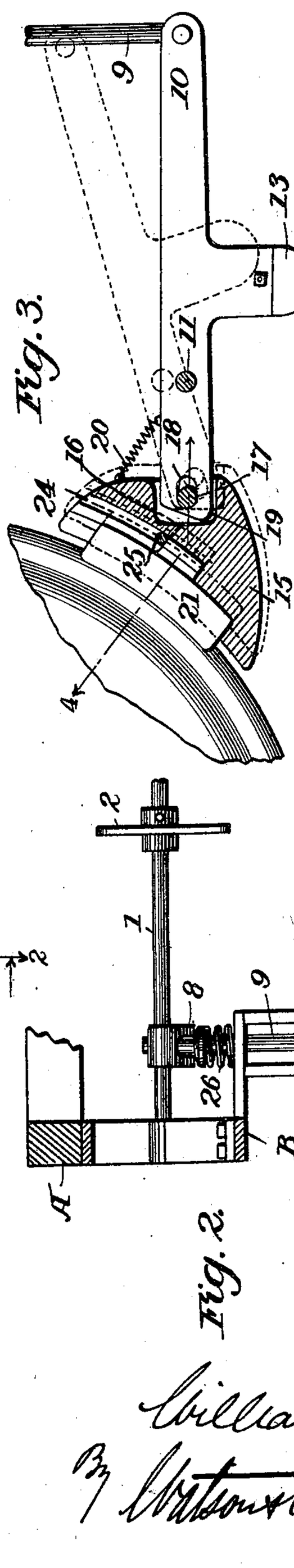

Fig. 3.

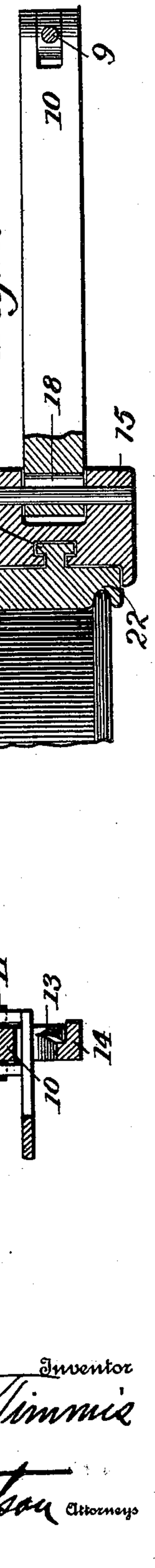

Fig. 4.

Fig. 2.

Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM TIMMIS, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO FRANK W. BAILEY AND CAROLINE B. PIER, OF SAME PLACE.

COMBINED TRACK AND WHEEL BRAKE.

SPECIFICATION forming part of Letters Patent No. 598,966, dated February 15, 1898.

Application filed October 2, 1897. Serial No. 653,851. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM TIMMIS, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in a Combined Track and Wheel Brake, of which the following is a specification.

My invention consists in a combined track and wheel brake for electric and other street-cars. The brakes are so arranged that they can be simultaneously applied from either end of the car.

In the accompanying drawings, Figure 1 is a central longitudinal section of a car provided with improved brakes according to this invention. Fig. 2 is a section on the line 2 2, Fig. 1. Fig. 3 is a central section through one of the wheel-brakes, and Fig. 4 is a section on the line 4 4, Fig. 3.

In the drawings, A indicates the floor of a car, and B the truck-frame. Upon the truck-frame are mounted a pair of transverse shafts 1, and upon each shaft is a vertical lever 2, the shaft passing through its center. The upper ends of all of the levers are connected by a suitable chain or rope 3 with the winding-drum of a brake-shaft 4 upon one end of the car, and the lower ends of the levers are connected by a chain or rope 5 with the drum of a brake-shaft 6 upon the other end of the car. These ropes pass over guide-sheaves 7 beneath the car-floor. At the outer ends of the rock-shafts 1 and directly over the rails are arms 8. These arms engage vertical plungers 9, which are pivotally connected at their lower ends to brake-levers 10.

The levers 10 have trunnions 11, which are free to move vertically in guides 12. Upon the lower sides of the levers are track-brakes having shoes 13, which bear upon the rails 14. The shoes 13 may be connected in any suitable manner to the levers. To the ends of the levers adjacent to the wheels are connected brake-blocks 15. In the back of each block is a socket 16, in which the end of the lever fits loosely, the lever being connected to the block by a transverse bolt or pin 17, which passes through a slot 18 in the lever, allowing the lever to move relatively to the block a limited amount. The end of the lever is inclined upward and away from the block, forming a cam 19 for a purpose to be hereinafter explained. To hold the brake-shoe away from the wheel while the brake is out of action, the upper end of the brake-block is connected with the brake-lever by a spring 20.

The wheel brake-shoe 21 has a groove 22 in its face, adapted to fit the flange of the wheel, the said groove serving to guide the brake-shoe accurately to its seat upon the wheel. Upon the back of the brake-shoe is a ribbed shank 23, which fits a corresponding undercut groove 24 in the brake-block. Groove 24 extends from the top of the block down to the middle thereof, and the brake-shoe is connected by sliding the ribbed shank in the groove 24 until it reaches the bottom of the groove and then confining it therein by a transverse pin or bolt 25.

In Fig. 1 the brakes are shown applied and in Fig. 3 the brakes are shown applied in full lines and released in dotted lines. The brakes are released by springs 26, which raise the rods 9 as soon as the brake-shafts are released. Referring to Fig. 3, the dotted lines show the position of the parts when the brakes are released. The brake-shoe 21 moves away from the wheel, and the shoe 13 is moved a considerable distance from the track. In this position the inclined end of the brake-lever 10 fits the base of the socket 16. When the inner end of the lever 10 is depressed, the brake-shoe 13 first comes in contact with the rail, which forms a fulcrum for the lever. The further downward movement of the inner end of lever 10 raises the outer end of the lever and applies the wheel-brake. At the same time the cam 19 on the end of the lever pushes the brake-shoe forcibly against the wheel. The horizontal thrust from the wheel-brake is sustained by the trunnions 11, while the vertical thrust is sustained by the rods 9. In the above manner I am enabled to simultaneously apply brakes to all of the wheels of a car and a like number of brake-shoes to the track.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a car-brake, the combination of the

vertical guides connected with the frame, the brake-lever having trunnions vertically movable in said guides, the track brake-shoe connected to the lever and forming the fulcrum thereof, the wheel brake-shoe at one end of said lever, and means for operating the other end of the lever whereby both brakes are simultaneously applied, substantially as described.

2. In a car-brake, the combination with the brake-lever and the track brake-shoe forming the fulcrum thereof, of a brake-head loosely connected to the end of the lever, a cam on said lever adapted to operate on the brake-head, and a shoe connected to said head, substantially as described.

3. In a car-brake, the combination of the frame, the brake-lever, the head loosely pivoted to the lever, the cam on said lever adapted to operate on the head and the spring connecting the head with the lever, substantially as described.

4. In a car-brake, the combination with the frame having vertical guides 12, of the brake-lever having trunnions mounted in said guides, the track brake-shoe connected with the lever and forming the fulcrum thereof, the wheel-brake connected with one end of the lever, and the vertical plunger 9 for operating the lever, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM TIMMIS.

Witnesses:

THOS. M. BROWN,

ALICE BURBACK.