

(No Model.)

2 Sheets—Sheet 1.

G. A. DIEDEL.

BRAKE SHOE ATTACHMENT FOR RAILWAY CARS.

No. 401,257.

Patented Apr. 9, 1889.

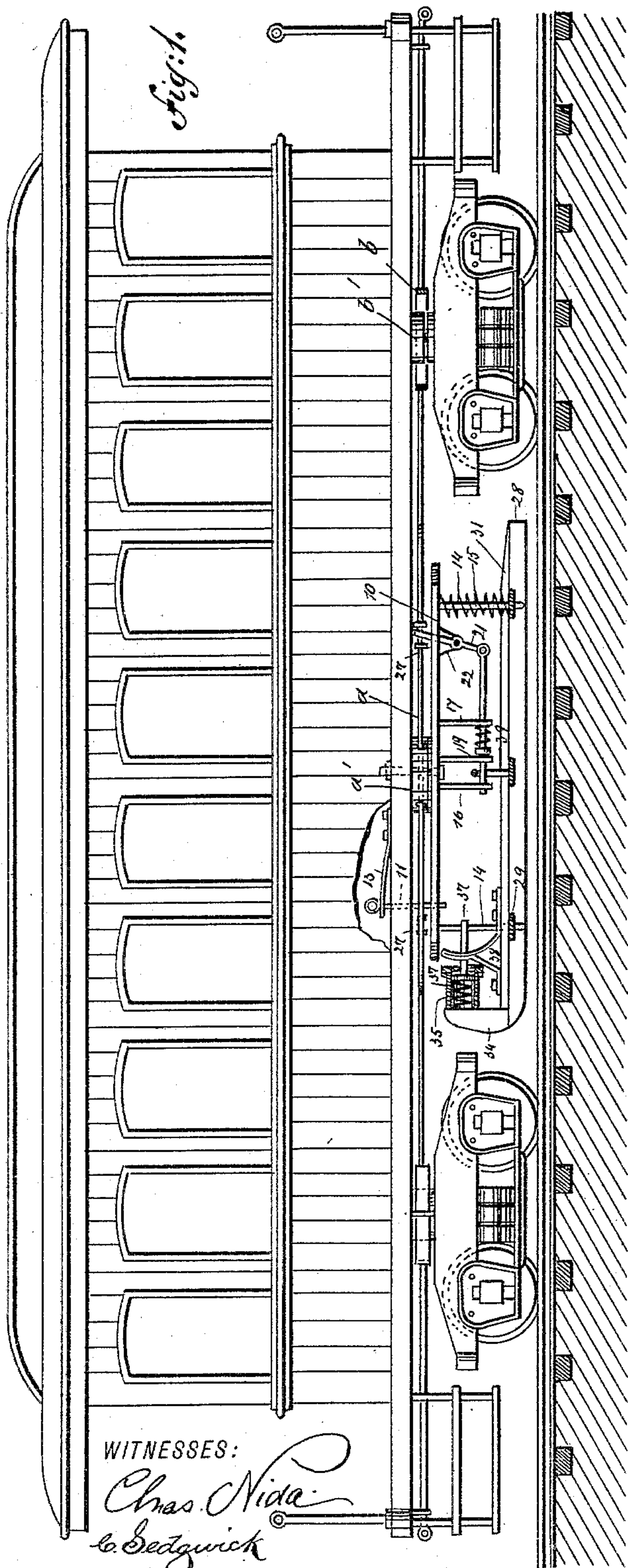
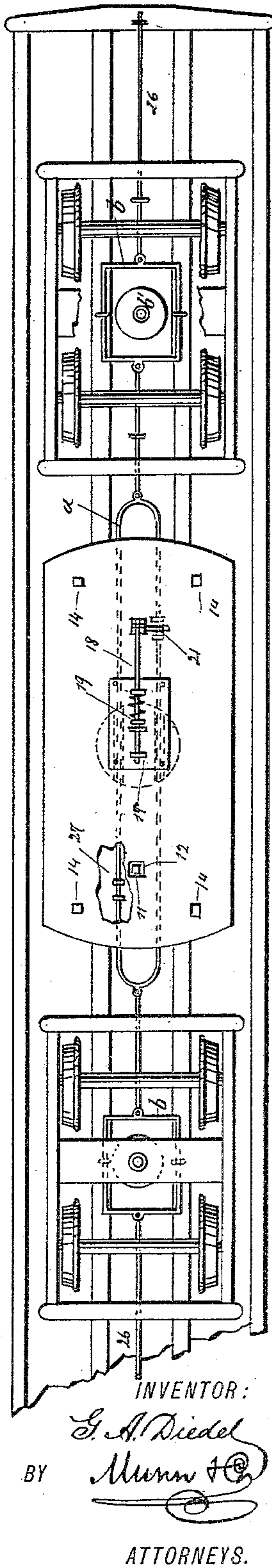


Fig. 2.



(No Model.)

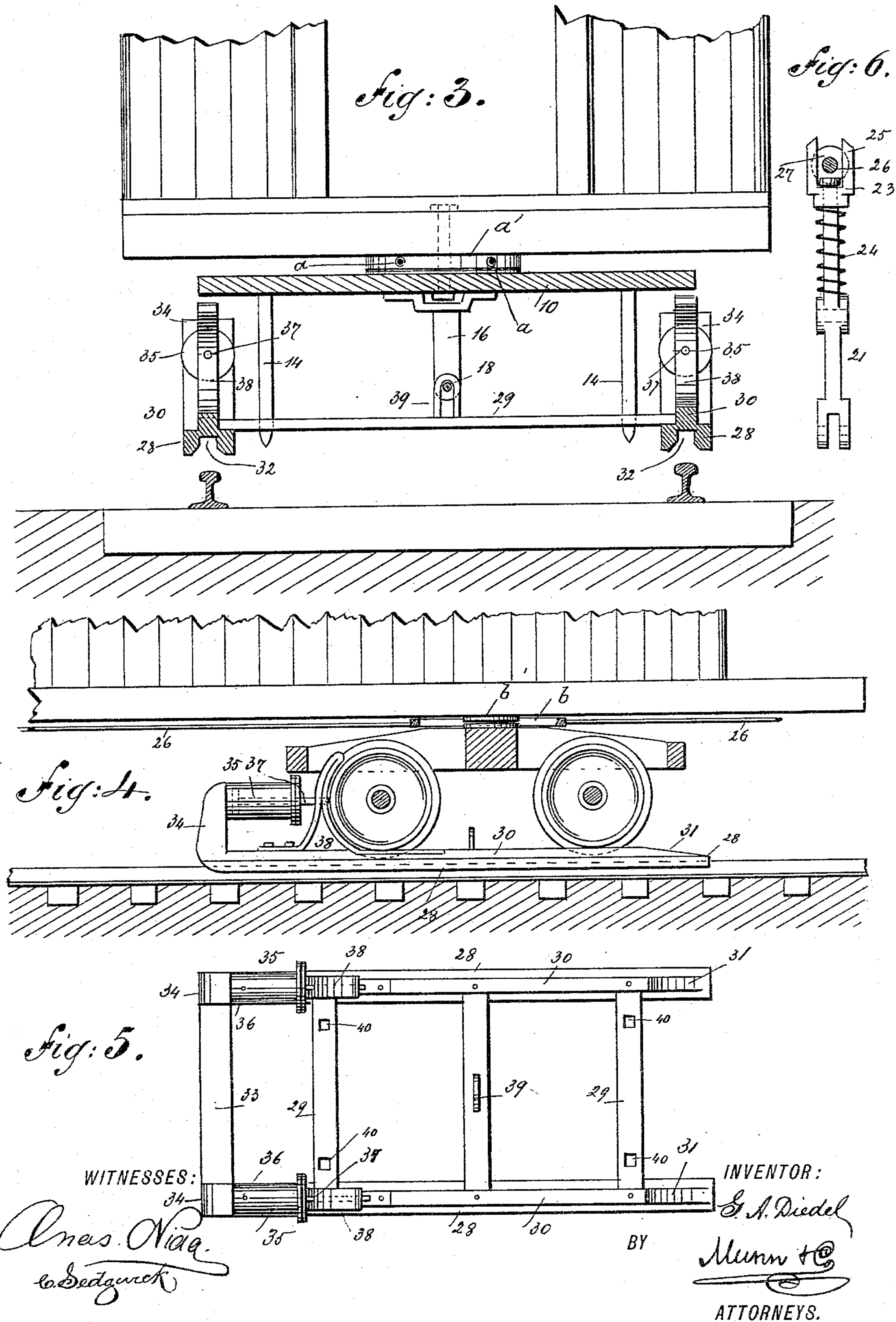
2 Sheets—Sheet 2.

G. A. DIEDEL.

BRAKE SHOE ATTACHMENT FOR RAILWAY CARS.

No. 401,257.

Patented Apr. 9, 1889.



UNITED STATES PATENT OFFICE.

GUSTAV A. DIEDEL, OF NEW YORK, N. Y.

BRAKE-SHOE ATTACHMENT FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 401,257, dated April 9, 1889.

Application filed November 13, 1888. Serial No. 290,677. (No model.)

To all whom it may concern:

Be it known that I, GUSTAV ADOLPH DIEDEL, of the city, county, and State of New York, have invented a new and Improved Brake-Shoe Attachment for Railroad-Cars, of which the following is a full, clear, and exact description.

My invention relates to an improved brake-shoe attachment for railroad-cars, and has for its object to provide a means whereby a train of cars may be expeditiously stopped from the engine-cab; and the further object of the invention is to provide a shoe of simple and effective construction adapted to be carried beneath the cars of a train; and the object of the invention is also to provide a means whereby all the shoes may be simultaneously brought into action.

Another object of the invention is to provide a brake-shoe which may be successfully operated upon a train carrying any known form of brake, to serve as an auxiliary means of suddenly stopping a train and not interfere in the least with such brakes.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of a car, partly broken away, having my improvement attached; and Fig. 2 is a bottom plan view of the car, illustrating the attached turn-table, the brake-shoe being detached. Fig. 3 is a transverse section through the device, illustrating the shoe as elevated or in its normal position. Fig. 4 is a side elevation of the shoe in position on the track to brake the car, the car-truck being in section. Fig. 5 is a plan view of the detached shoe, and Fig. 6 is a detail view of the trip-lever carried by the turn-table.

It is the prime object of this invention to provide a brake-shoe which may be used as an adjunct to the air-brake or other ordinary brake, to act independently thereof, yet in conjunction therewith, to insure a quick and decided stoppage of a train when desired, and

also to supply a brake which will be capable of stopping a train when used alone should the ordinary brakes for any reason fail to act. To this end a turn-table is pivoted beneath the car-bed, preferably at the center, which turn-table consists of a plate, 10, of suitable size and contour, preferably rectangular, held in proper position with respect to the length of the car by a bolt, 11, passing through the car-floor and into a recess, 12, in the upper face of the turn-table, which recess may extend entirely through the table, as best shown in Fig. 1. The bolt is normally held in a locked position by a spring, 13, attached to the top of the same and to the car-floor, which spring may be of any desired shape. Two of the recesses 12 are employed, arranged in longitudinal alignment, one near each end of the table, about midway the sides.

At or near each corner of the turn-table rods 14 are projected perpendicularly downward from the under side, which rods are preferably polygonal in cross-section, and the rods at one end are encircled by coiled or spiral springs 15, for a purpose hereinafter set forth. About centrally the under side of the table a hanger, 16, is rigidly attached, consisting of a base fast to the table and two or more (preferably three) spaced posts, 17, extending vertically downward from the said base. A horizontal releasing-bar is held to slide in the posts of the hanger, which releasing-bar is provided with an attached stop, 19, and a coiled spring, 20, located between two of the posts, as best shown in Fig. 1.

A trip-lever, 21, is pivoted to the outer end of the releasing-bar and fulcrumed upon a bracket, 22, the upper end of which trip-lever is curved to one side and carried upward through and beyond the turn-table. The trip-lever 21, which is illustrated in detail in Fig. 6, is provided with a bifurcated head, 23, sliding upon the body, held normally in contact with a button at the upper extremity of the body by a spring, 24, engaging the lower end of the head, and an enlargement or collar located preferably at the fulcrum-point of the lever. The upper extremities of the sliding head are provided with a bevel-surface, inclined from the outside upward and inward. The trip-lever is manipulated from a rod,

chain, or wire rope, 26, held to slide longitudinally beneath the car-body, as shown in Figs. 1 and 2, provided above each end of the turn-table with spaced rings or collars 27, between which spaced rings or collars the sliding head 23 of the trip-lever is made to engage with the said rod or chain, as best illustrated in Fig. 1.

The rod, chain, or wire rope 26 is formed in a preferably oblong link, *a*, above the turn-table, as best shown in Fig. 2, and the sections constituting the sides of the link are made to slide in suitable apertures produced in the turn-table socket *a'*, as illustrated in Figs. 1 and 3, and at the truck-swivel or turn-table *b'* the rod, rope, or chain is shaped to form a preferably rectangular link, *b*, which link surrounds the said truck-swivel, as shown in Figs. 1 and 2. The latter link, *b*, is of sufficient size to permit ample forward and rearward movement of the rope or chain 26 without interfering with the proper action of the truck-swivel.

The brake-shoe consists of two side bars, 28, spaced an equal distance with the rails of the track by cross-bars 29. Each side bar, 28, is provided with a track, 30, formed longitudinally upon the upper surface, one end of the said track being beveled, as best illustrated at 31 in Figs. 4 and 5. In the under surface of the side bars, 28, a longitudinal groove, 32, is produced, flaring outward at the bottom, and of sufficient width only above to snugly fit over the rail-head, as best shown in Fig. 3. The side bars, 28, are connected at the square end of the tracks 30 by a cross-beam, 33, from the extremities of which a head-block, 34, is vertically and upwardly projected. A horizontal air-cylinder, 35, is securely attached at one end to the inner face of the head-block, provided with a small vent, 26, and a piston head and rod, 37, the outer end of which piston-rod is carried through and held to slide in buffers 38, attached to the side bars and curved in direction of the free ends thereof to conform to the circle of the wheels, as best shown in Fig. 4.

The central cross-bar 29 is provided with a staple or hook, 39, through which the releasing-bar 18 is passed to suspend the shoe above the track. The ends of the turn-table rods 14 are made to enter suitable apertures, 40, produced in the end cross-bars 29, the rods encircled by the springs 15 being made to enter the apertures 40 at the lighter end of the shoe, in order that when the shoe is released the said springs will act to force the lighter end down upon the rails simultaneously with the heavier end. The rods 14 serve to keep the shoe when elevated in proper alignment over the rails.

The brake-shoes may be placed under every car or as many cars of a train as desired, and the car-rods 26 may be coupled in any approved manner to each other and to the engine-rod, which latter is provided with a suit-

able lever located within or adjacent to the engine-cab.

The shoe having been attached to the turn-table, as illustrated in Fig. 1, the said turn-table is manipulated to bring the buffer end of the shoe in direction of the forward end of the car. To this end the table may be revolved in the proper direction by lifting the car-bolt 11 and disengaging the trip-lever from the draw-rod 26, whereupon the table is turned until the sliding spring-actuated head of the trip-lever again engages with the draw-rod and the car-bolt drops into its recess. To stop the train, the engineer manipulates the cab-lever, which will move the draw-rods of each car forward. This movement also carries the trip-lever forward, which lever carries the releasing-bar 18 to the rear, withdrawing the same from the hook or staple 39 of the shoe. The shoes being thus released will drop upon the rails between the front and rear trucks and remain saddled upon the rails. Almost at the moment the shoe strikes the rails the rear truck wheels will ride up upon the shoe-track, whereupon the shoe becomes a brake or drag on the wheels, and, striking the cushioned buffers, will carry the shoe a slight distance forward.

The shoe may be made sufficiently long to receive the wheels of the rear truck of the car under which it is suspended, and also the wheels of the forward truck of the next car.

Having thus described my invention, I claim claim as new and desire to secure by Letters Patent—

1. The combination, with a railway-car and a turn-table pivoted beneath the same, of a brake-shoe suspended from said table and means, substantially as described, for releasing said shoe, as and for the purpose specified.

2. The combination, with a railway-car and a turn-table pivoted beneath the same, of a brake-shoe detachably suspended from the turn-table, having the side rails longitudinally grooved and provided with a track upon the upper surface, substantially as shown and described.

3. The combination, with a railway-car and a turn-table pivoted beneath the same, of a brake-shoe detachably suspended from the turn-table, having the side rails longitudinally grooved, a track integral with the upper surface of the said side bars provided with one beveled end, and means, substantially as described, for releasing the brake-shoe, as and for the purpose specified.

4. The combination, with a railway-car and a turn-table pivoted beneath the same, of a brake-shoe suspended from the turn-table, having the side rails thereof longitudinally grooved, a track integral with the upper surface of the side rails provided with beveled rear ends, buffers attached to the forward ends of said tracks, and means, substantially as described, for releasing the brake-shoe, as and for the purpose specified.

5. The combination, with a railway-car and a turn-table pivoted beneath the same, of a brake-shoe suspended from the turn-table, having the under face of the side rails longitudinally grooved, a track integral with the upper surface of the side rails provided with beveled rear ends, cushioned buffers attached to the forward ends of the rails, and means, substantially as described, for retaining the turn-table in a fixed position and releasing the shoe from the table, as and for the purpose specified.

6. The combination, with a railway-car, a turn-table pivoted beneath the same, a draw-rod held to slide above the table, hangers attached to the table, a releasing-bar carried by said hangers, and a trip-lever pivoted to said bar and engaging the draw-rod, of a brake-shoe suspended from the releasing-bar, having the under face of the side bars longitudinally grooved, a track integral with the upper surface of the side bars provided with a beveled rear end, and buffers secured to the forward end of the tracks, substantially as shown and described.

7. The combination, with a railway-car, a turn-table pivoted beneath the same, a draw-rod held to slide above the table, hangers at-

tached to said table, a releasing-bar sliding in said hangers, a trip-lever pivoted to the releasing-bar and actuated from the draw-rod, and guide-bars projected from the turn-table, of a brake-shoe suspended from the releasing-bar, provided with apertures to receive the said guide-bars, and side bars having a bottom longitudinal groove, a track integral with the upper surface of the side bars provided with a beveled rear end, and cushioned buffers secured to the forward end of the tracks, substantially as shown and described.

8. A brake-shoe for railway-cars, consisting of connected side bars spaced to the gage of a railroad-track and having a longitudinal bottom groove to receive the rails, a track integral with the upper surface of the side bars, and buffers secured to the shoe-tracks near the rear end, substantially as described.

9. A brake-shoe of the character described, having cushioned buffers on its upper side for the car-wheels to strike, substantially as set forth.

GUSTAV A. DIEDEL.

Witnesses:

J. F. ACKER, Jr.,
C. SEDGWICK.