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PATENTED JUNE 2, 1908.

J. E. GABRIEL.  
RAILWAY CAR CHOCK BRAKE.  
APPLICATION FILED DEC. 17, 1907.

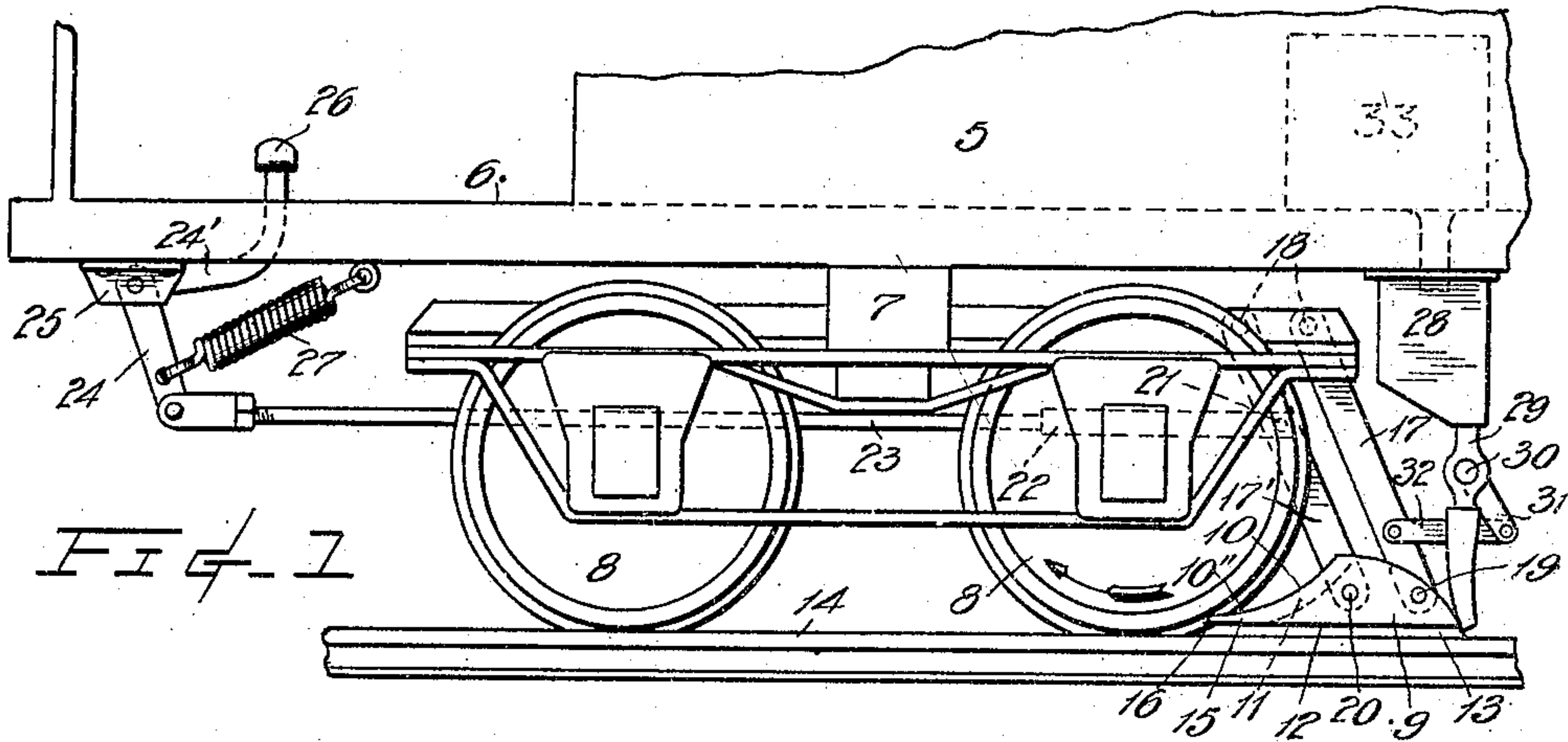


FIG. 1

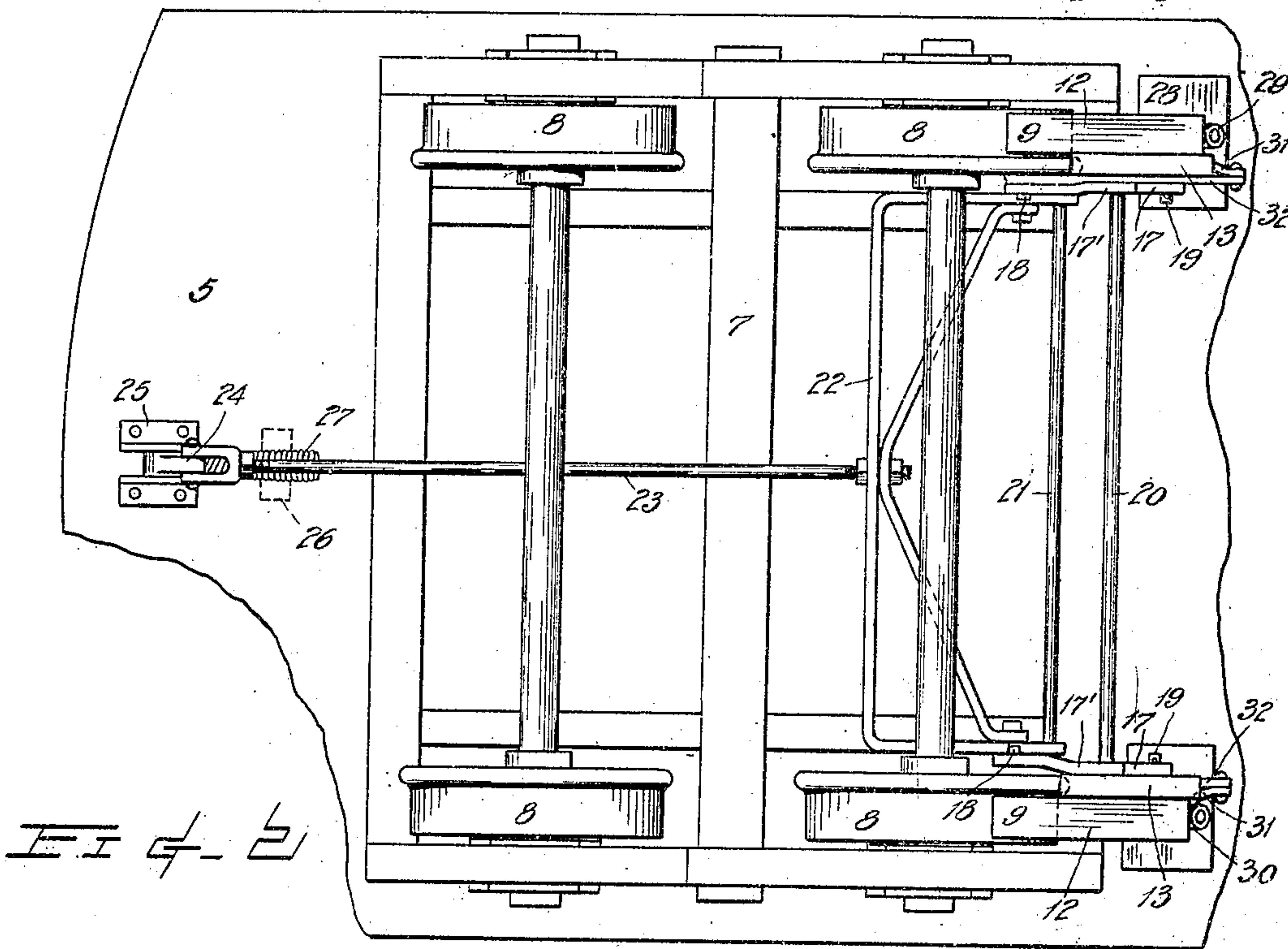


FIG. 2

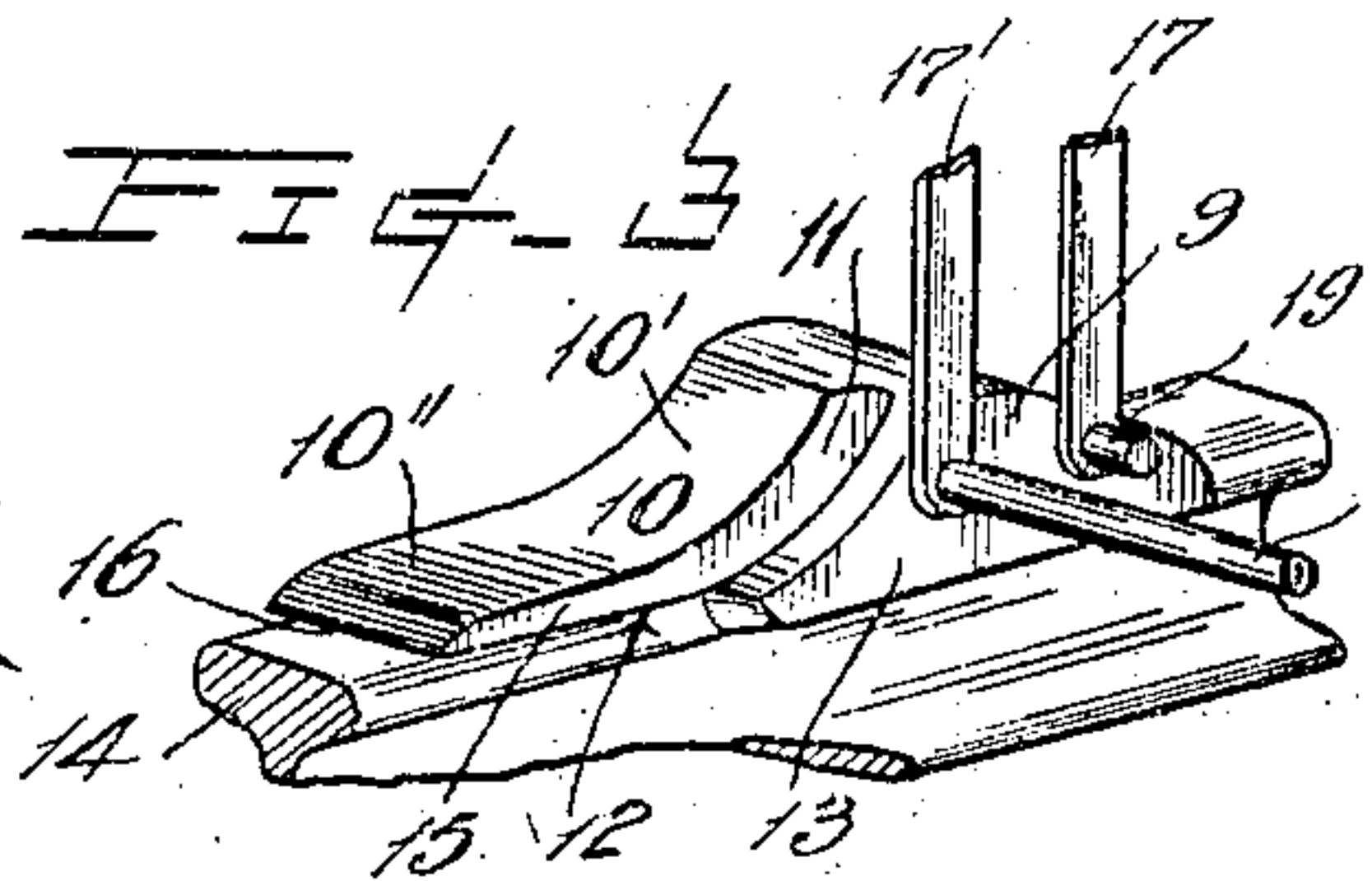


FIG. 3

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# UNITED STATES PATENT OFFICE.

JOHN E. GABRIEL, OF SEATTLE, WASHINGTON.

## RAILWAY-CAR CHOCK-BRAKE.

No. 889,847.

Specification of Letters Patent.

Patented June 2, 1908.

Application filed December 17, 1907. Serial No. 406,866.

*To all whom it may concern:*

Be it known that I, JOHN E. GABRIEL, a citizen of the United States, residing at Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Railway-Car Chock-Brakes, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to car-brakes, and while adapted to all classes of city and suburban railway lines, it is especially intended for use upon cable-cars which are employed in steep ascents.

15 The object of the invention is to provide a simple and efficient chocking-brake which may be reliably used both as a service brake in retaining the car at various stopping points, and as an emergency brake, supplementary to the ordinary wheel brake-shoe, to keep the cars provided therewith at all times under the control of the gripman or other operator.

25 With these ends in view, the invention consists in the provision of brake-shoe members coupled together so as to operate in unison and are arranged to be manipulated so as to frictionally engage the car-wheels and also the track-rails, together with means actuated in applying the brake whereby a gritty material is supplied to the rails to overcome such slip as would occur from the momentum of a car.

35 The invention further consists in the novel construction, adaptation and combination of parts, as will be hereinafter described and claimed.

40 In the drawings, Figure 1 is a side elevation of the end of a car provided with braking apparatus embodying my invention. Fig. 2 is an underside plan view of the same. Fig. 3 is a perspective view of a brake-chock with a portion of a track-rail and the links whereby the chock is suspended.

45 The reference numeral 5 designates a car-body shown with a platform 6 and mounted upon a truck, such as 7, provided with wheels 8. The truck may be connected by a king-bolt with the car-body so as to be swerved independently of the body but, as ordinarily with cable-operated cars, with which the invention is primarily intended for use, the body is fixedly connected with the truck bunk or beam.

55 9 represent brake-shoes, or chocks, which are formed of cast iron or other suitable ma-

terial. Each of these chocks is formed upon its upper side to have a face which is arc-shaped at the rear 10' and of a radius corresponding with that of the car-wheel with which it co-acts, while at the front it is flattened, as at 10'', and to one side of the curved portion of such face there is provided a rabbet 11 to accommodate the wheel-flange.

60 The under face 12 is made practically flat and to the inner side at the rear thereof is a depending flange 13 which serves as a guide to properly direct the chock upon the track rail and maintain the same in alinement therewith when brought into operation. The parts 15 of the chocks which are forward of said arc-shaped faces furnish tongues whose office is to bear the wheels as they recede thereupon to engage with such faces, and that the wheel may readily mount the tongues, their extremities 16 are formed to a relatively sharp edge. These chocks are severally suspended from the said truck-frame by pairs of links 17 and 17' which are of equal lengths and are pivotally connected by pins 18 with the truck frame above and at their lower ends the links 17 are connected by pins, such as 19, or by cross-rods, as 20, connecting the chocks. The axes of this pivotal connection for each pair of links, at both top and bottom, are spaced equally distant apart, consequently the links will carry the chocks in parallel planes.

80 To a cross-rod 21 between the links 17' is connected a frame 22 which, in turn, is connected by a drag-bar 23 with a lever arm 24. This lever is fulcrumed to a support 25 which is rigidly secured to the car-body, while the other arm 24' of the lever extends upwardly through the floor of the car and terminates in a head 26 within easy reach of the operator's foot. 27 is an extensible spring connected to said lever and tending to normally hold the chocks in the inoperative position in which illustrated in Fig. 1.

90 Provided for each of the chocks is a box 28 for sand and which boxes are disposed so that supply tubes 29 leading therefrom will deposit the sand upon the rails immediately to the rear of the respective chocks. These tubes are each provided with an oscillatory valve, represented by 30, having a lever handle 31 which are respectively connected by rods 32 with the adjacent links 17, and the valves are adjusted so that they will be opened for the delivery of the sand when the chocks are swung into engaged position and



closed as the latter are retracted therefrom. 33 indicates a storage box from which sand is supplied to the aforesaid boxes and may be placed at any convenient place, as, for example, beneath a seat within the car.

While the aforescribed braking and sanding apparatus is illustrated as being connected with the truck at one end of a car, it is to be understood that the other truck is similarly equipped.

The operation of the invention is as follows: By pressing down with his foot upon the lever-arm 24' the operator overcomes the power of the spring 27 and, through the agency of the bar 23 and frame 22, the links which suspend the chocks are swung to protrude the tongues 15 of the latter into position so that the wheels should they rotate in the direction indicated by the arrow in Fig. 1, will mount upon these tongues and through the superposed weight thus borne press the chocks with great force against the track-rails. A continued rotation of the wheels serve to move them until the wheel-rims contact with the curved portions 10' of the chock-faces whereupon the wheels themselves are braked.

Coincidentally with and actuated by the movement of the chocks in effecting braking engagement with the rails and the wheels, the valves 30 in the delivery tubes of the sand containers are opened to liberate sand which falls upon the rails to effectually stop the sliding of the chocks thereover.

In ascending a hill, the braking devices to the rear of a car would be utilized to overcome any retrograde travel of the car; while in descending the devices at the forward end of the car would be employed. To release the brakes the car is caused to move in an opposite direction to roll the wheels from the chocks whereupon the spring 27 asserts itself to withdraw the chocks into the position in which illustrated and likewise close the valves to interrupt the outflow of sand.

The apparatus is readily put in operation and may advantageously be used not only upon inclines but as an emergency brake for stopping the progress of a car in any situation.

Having described my invention, what I claim, is—

1. In apparatus of the class described, the combination of a car body, a truck thereof, a pair of chocks severally formed with an arc-

shaped wheel-engaging face, links suspending said chocks from the truck, a frame connected with said links, a lever, a draw-bar connecting the lever with said frame, and a spring acting to retain said chocks in disengaged condition.

2. In apparatus of the class described, the combination with the wheel chocks, vibratory links supporting said chocks, a lever, operative connections between the lever and said links, a spring tending to maintain said chocks in disengaged positions, of devices operative with the applying of said chocks for discharging sand to the rear of the chocks.

3. In apparatus of the class described, the combination with the wheel-chocks, vibratory links supporting said chocks, a lever, operative connections between the lever and said links, a spring tending to maintain said chocks in disengaged positions, of devices operative with the applying of said chocks for discharging sand to the rear of the chocks, said devices comprising sand receptacles, tubes leading therefrom, oscillatory valves in said tubes, lever-handles to said valves, and connections between said links and the lever handles.

4. In apparatus of the class described, the combination of a car-body, a truck thereof, and a pair of chocks severally formed with an arc-shaped wheel-engaging face, a tongue protruding therefrom, and a downwardly extending flange, with links suspending said chocks from the truck, a frame connected with said links, a lever, a draw-bar connecting the lever with said frame, and a spring acting to retain said chocks in disengaged condition.

5. In apparatus of the class described, the combination with a car-truck, a pair of chocks, links connected with the truck and supporting said chocks, means for actuating said links to move said chocks from their normally inoperative positions into engaged positions, and spring-controlled means for restoring the chocks to such inoperative positions when said link actuating means are disengaged.

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

JOHN E. GABRIEL.

Witnesses:

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ROBERT B. GILLIES.