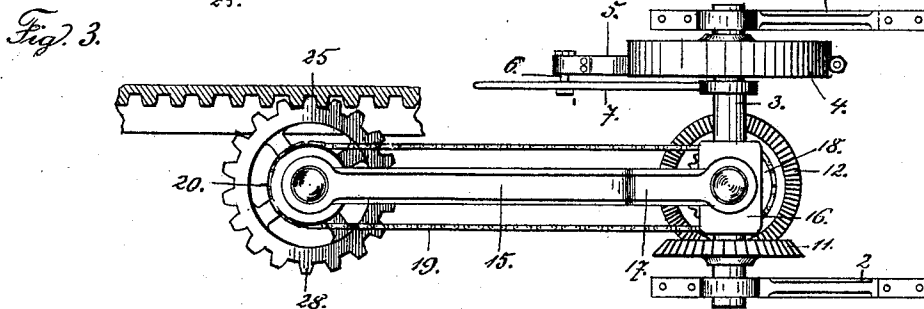
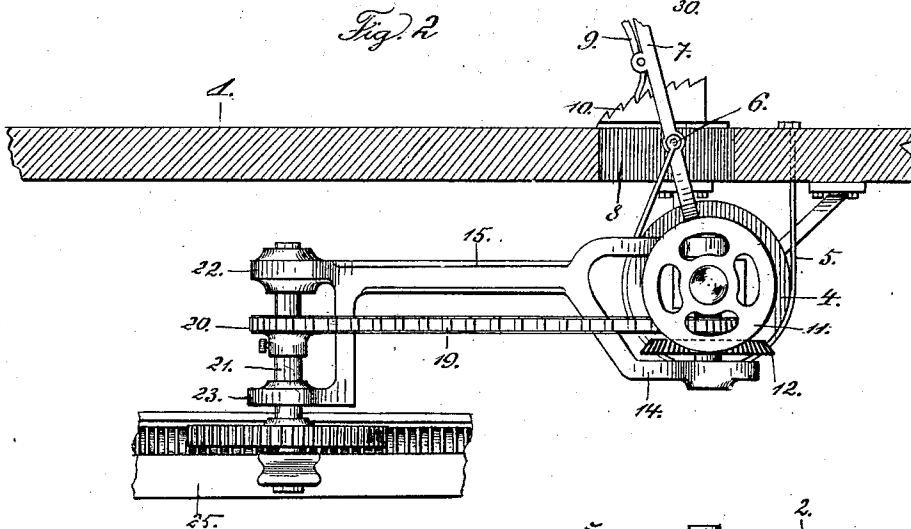
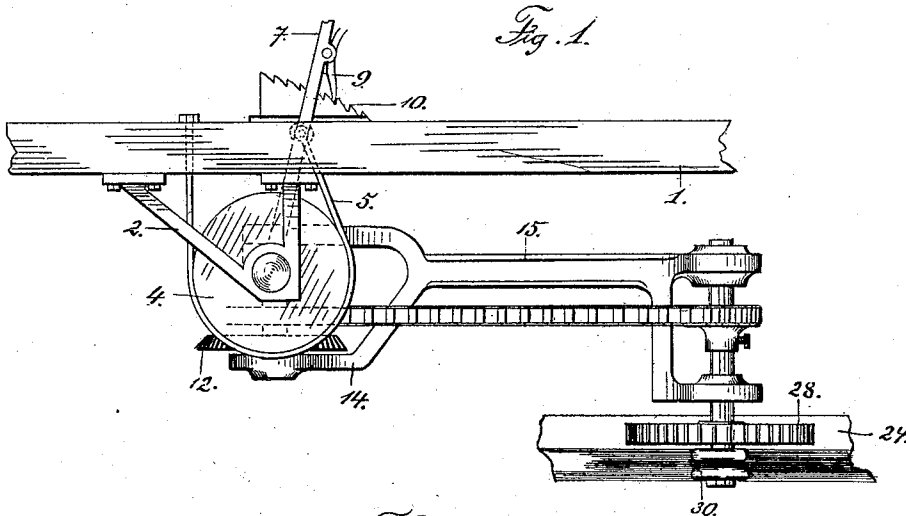


No. 828,184.

PATENTED AUG. 7, 1906.

S. BRITTON.
RAILWAY BRAKE.
APPLICATION FILED MAY 3, 1906.

2 SHEETS—SHEET 1.



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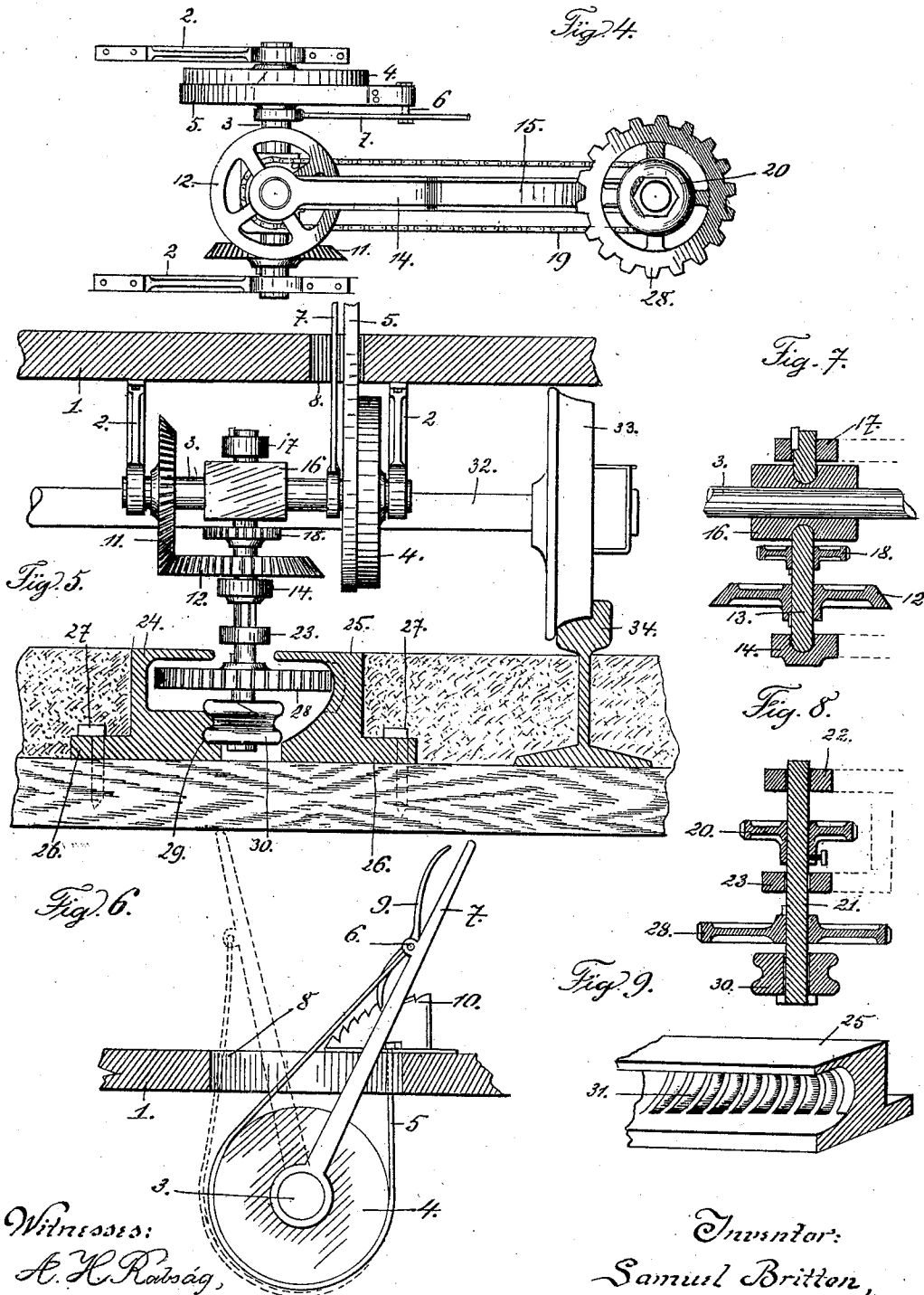
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

SAMUEL BRITTON, OF TWILIGHT, PENNSYLVANIA.

RAILWAY-BRAKE.

Inv. 828,184.

Specification of Letters Patent.

Patented Aug. 7, 1906.

Application filed May 3, 1906. Serial No. 315,018.

To all whom it may concern:

Be it known that I, SAMUEL BRITTON, a citizen of the United States of America, residing at Twilight, in the county of Washington and State of Pennsylvania, have invented certain new and useful Improvements in Railway-Brakes, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to brakes especially adapted for use with street-railway cars; and its object is to provide an effective brake mechanism whereby the motion of a car may be quickly arrested, particularly on heavy
15 grades.

The invention consists of a friction-brake carried by a car in combination with a continuous rack-bar and a toothed wheel arranged between the track-rails and a train of
20 gearing, together with a sprocket-chain for revolving a brake-shaft and brake-wheel carried thereby.

The invention further consists in various combinations of elements and details of construction, which will be fully described hereinafter in connection with the accompanying
25 drawings, which form a part of this specification, and particularly pointed out in the appended claims.

30 In the drawings, Figure 1 is a side elevation of my improved brake mechanism in connection with a portion of a car frame or platform. Fig. 2 is a similar view, partly in section, showing the side opposite to that shown in Fig. 1. Fig. 3 is a top plan view of the
35 mechanism detached from the car, a portion of the rack-bar being shown in horizontal section. Fig. 4 is a reverse or bottom plan view. Fig. 5 is a view, partly in elevation
40 and partly in transverse vertical section, showing a car axle and wheel and the center trackways for the brake mechanism. Fig. 6 is a detail view of the friction-brake device. Fig. 7 is a detail sectional view of the friction-
45 wheel shaft and mechanism carried thereon. Fig. 8 is a detail sectional view of the vertical shaft carrying the toothed driving-wheel, guide-roller, and driving sprocket-wheel; and Fig. 9 is a detail perspective view of a section
50 of the rack-bar with which the toothed driving-wheel engages.

The reference-numeral 1 designates a portion of a car frame or platform, to the under side of which are secured parallel brackets 2,
55 provided with bearings for a horizontal shaft 3. Upon this shaft 3, near one end thereof, is

fixed a friction-disk 4, around which passes a friction-band 5, one end of said band being secured to the car-platform, as shown in Figs. 1 and 2, while its opposite end is secured to a stud 6, projecting from a lever 7.
60 The lever is loosely fulcrumed upon the shaft 3 and extends upward through a slot 8 in the car-platform, and said lever is equipped with a pawl or dog 9, adapted to engage a segmental ratchet 10, secured upon the platform.

The numeral 11 designates a bevel-gear mounted upon the shaft 3 and meshing with a horizontally-disposed bevel-gear 12, mounted upon a stud-journal 13, having bearing at its lower end in the lower arm 14 of a bifurcated frame 15 and at its upper end in a block 16, fixed to the shaft 3. The upper
70 arm 17 of the frame 15 is keyed to the upper side of the block 16, as best shown in Fig. 7.

Above the bevel-gear 12 on the shaft or journal 13 is a sprocket-wheel 18, connected by a sprocket-chain 19 with a sprocket-wheel 20, fixed upon a vertical shaft 21, supported
80 in bearings formed in the rear parallel arms 22 and 23 of the frame 15.

Between the rails of the car-track I employ a conduit consisting of two sections 24 and 25, Fig. 5. Each of these conduit-sections is provided with an outwardly-extending flange 26, through which spikes 27 are driven to secure the sections to the ties or road-bed. The inner side of the section 24 is hollowed out to accommodate a toothed
85 driving-wheel 28, fixed upon the vertical shaft 21, and said conduit-section 24 is also formed with a continuous groove 29 to provide a trackway for a grooved guide-roller 30, mounted revolvably upon the lower end of the shaft 21. The inner face of the conduit-section 25 is hollowed out to overlap the driving-wheel 28, and its inner face is formed with continuous rack-teeth 31, which are engaged by the teeth of the driving-wheel 28.
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In Fig. 5 are shown an axle 32, a car-wheel 33, and one rail 34 of a railway-track.

The operation of the mechanism constructed as thus described is as follows: The toothed wheel 28 engages the teeth of the rack 25 and is thus revolved to revolve the shaft 21 and the sprocket-wheel 20, mounted thereon. The intermeshing bevel-gears 11 and 12 are revolved through the intermediacy of the sprocket-wheels 20 and 18 and the chain 19. The shaft 3 and brake-wheel 4 are revolved through the bevel-gears.
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When it is desired to brake the car, the lever 7 is operated to tighten the brake-band upon the wheel 4, and thus arrest the movement of the gearing and lock the toothed wheel 28 against the rack-bar 25.

As many of the details of construction may be modified or varied without departing from the invention, I would have it understood that I reserve the right to make all such minor changes and modifications as may fall within the spirit of the invention.

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

1. Car-brake mechanism comprising a trackway located between the rails of the car-track, and consisting of a continuous rack-bar, and a grooved guide-rail, in combination with a friction-disk supported below the car-platform, a bifurcated frame, a vertically-disposed shaft carried by said frame, a toothed wheel adapted to engage said rack, a train of gearing between said toothed wheel and friction-disk, and an operating-lever and brake-band.

2. In a car-brake mechanism, the combination with a continuous rack-bar located between the rails of the track, a toothed wheel engaging said rack, a frame supported below the car-platform and having bearings for the shaft of said toothed wheel, a train of gearing arranged below the car-platform and having a sprocket-chain connection with the shaft of the toothed wheel, a friction-disk adapted to be revolved by said gearing, a friction-band passing around said disk, and an operating-lever to which one end of said friction-band is secured.

3. In car-brake mechanism, a bifurcated frame supported below the car-platform, a vertical shaft supported in bearings in the rear end of said frame, a toothed wheel mounted on said shaft, and adapted to engage a rack-bar supported between the rails of the track, a vertical shaft supported in bearings at the forward end of the frame, a horizontal

shaft also supported in bearings of said frame, bevel-gears mounted on said shafts, a friction-disk mounted on said horizontal shaft, a brake-band, an operating-lever connected thereto, and a sprocket-chain connection between the shaft of the toothed wheel and the vertical shaft at the forward end of the frame.

4. The combination with a car-platform, of a bifurcated frame supported below the platform, a vertical shaft supported in bearings at the rear end of the frame, a toothed wheel mounted on said shaft and adapted to engage a rack located between the rails, a guide-roller below said toothed wheel adapted to engage a grooved trackway arranged opposite to said rack, a friction-disk, and gearing for revolving said disk from the shaft of the toothed wheel.

5. The combination with a car-platform, of brake mechanism carried thereby, a vertically-disposed shaft supported below the platform, a toothed wheel mounted on said shaft, a guide-roller on said shaft below the toothed wheel, and a trackway arranged centrally between the rails of the car-track and comprising a continuous rack-bar with which said toothed wheel engages, and an oppositely-disposed grooved rail upon which said guide-roller travels.

6. The combination with a car-platform of brackets depending therefrom, a horizontal shaft supported by said brackets, a bevel-gear mounted on said shaft, a friction-disk also supported on said shaft, a vertical shaft below said horizontal shaft carrying a bevel-gear and a sprocket-pinion, a vertical shaft supported in rear of said horizontal shaft, a sprocket-wheel carried thereon, and means for revolving said rear vertical shaft by the movement of the car.

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

SAMUEL BRITTON.

Witnesses:

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CHAS. RADCLIFFE.