

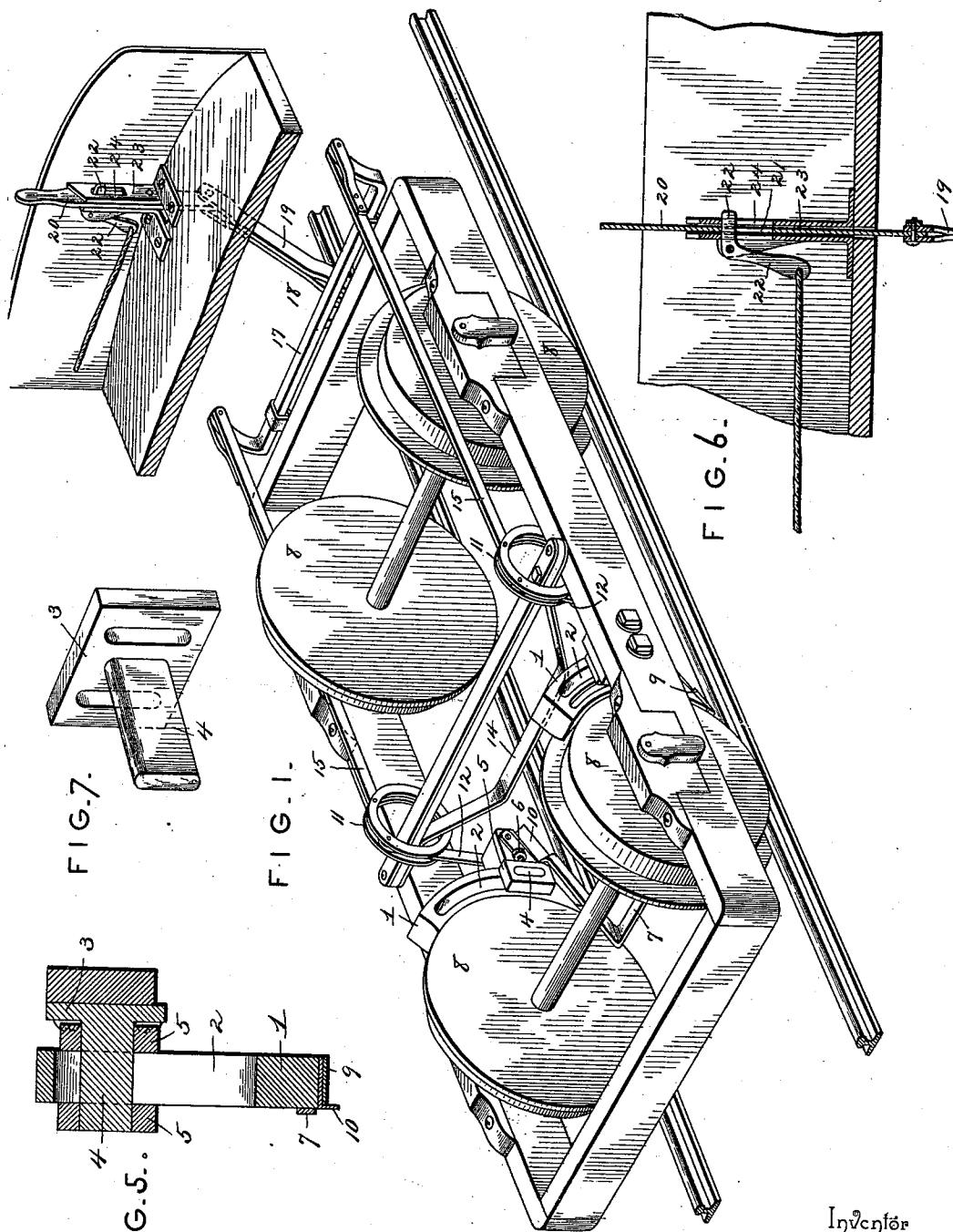
(No Model.)

2 Sheets—Sheet 1.

C. B. OVIATT.
CAR BRAKE.

No. 548,219.

Patented Oct. 22, 1895.



Witnesses

Harry L. Ames
J. H. Riley

By *His* Attorneys,

Cornelius B. Oviatt.

Cashnow & Co.

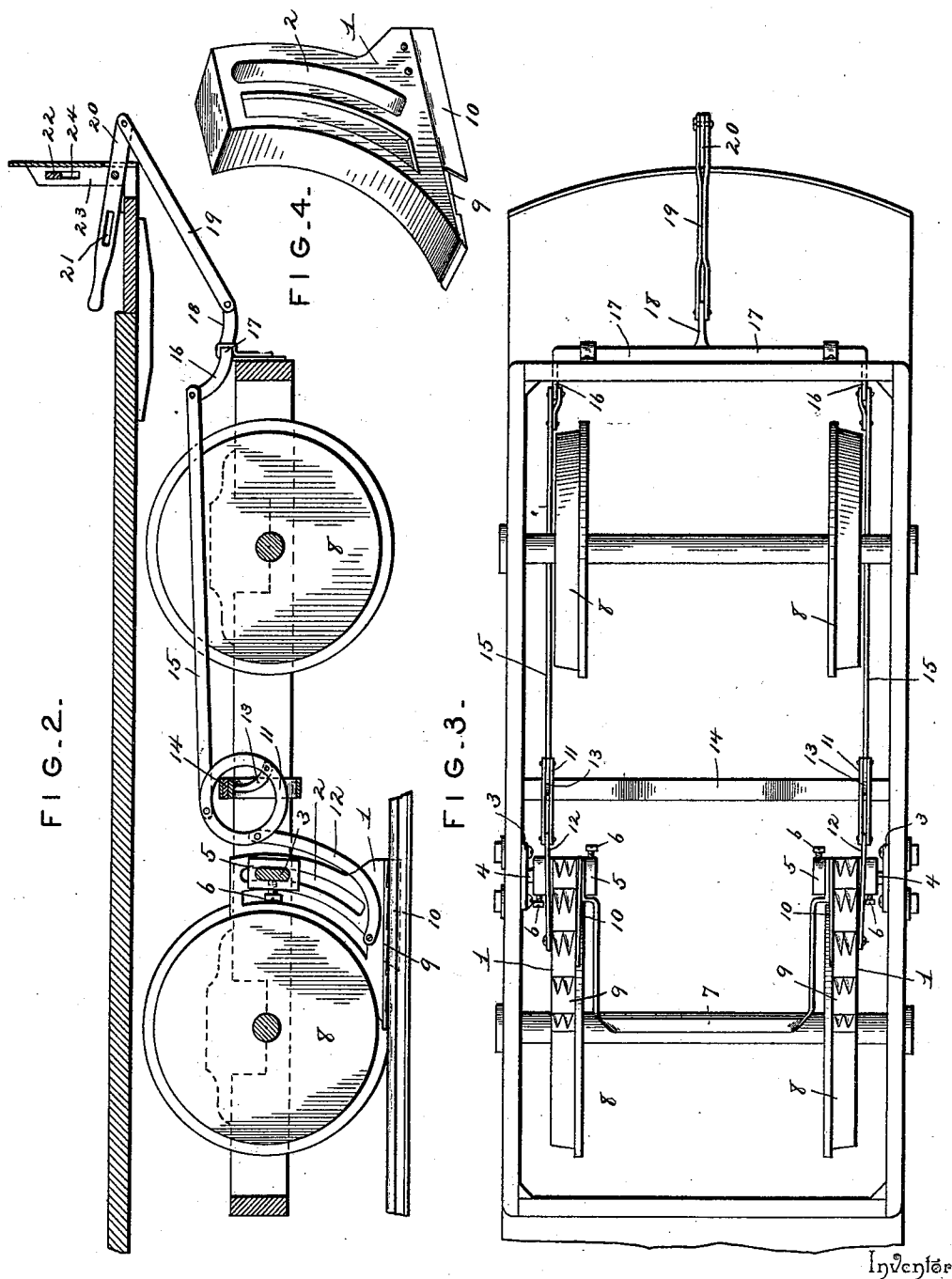
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Inventor

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UNITED STATES PATENT OFFICE.

CORNELIUS B. OVIATT, OF NORTH YAKIMA, WASHINGTON.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 548,219, dated October 22, 1895.

Application filed January 9, 1895. Serial No. 534,331. (No model.)

To all whom it may concern:

Be it known that I, CORNELIUS B. OVIATT, a citizen of the United States, residing at North Yakima, in the county of Yakima and State of Washington, have invented a new and useful Car-Brake, of which the following is a specification.

The invention relates to improvements in car-brakes.

10 The object of the present invention is to improve the construction of car-brakes and to provide one which will be adapted to operate both on the wheels and the track and designed to be employed in cases of emergency and capable of bringing an electric car, cable car, or similar street-railway cars instantly to a standstill, whether the tracks be slippery or otherwise.

15 The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

20 In the drawings, Figure 1 is a perspective view of a brake constructed in accordance with this invention and shown applied to a car, the upper portion of the car being removed. Fig. 2 is a longitudinal sectional view, the brake being applied. Fig. 3 is a reverse plan view. Fig. 4 is a detail perspective view of one of the brake-shoes. Fig. 5 is a detail sectional view illustrating the manner of mounting the brake-shoes on the truck-frame. Fig. 6 is a detail sectional view illustrating the construction of the gravity-catch for locking the operating-lever. Fig. 7 is a detail view of one of the brackets.

25 Like numerals of reference indicate corresponding parts in all the figures of the drawings.

30 11 designate a pair of brake-shoes, substantially L-shaped, and composed of a straight lower portion or hook and a curved shank, the inner face of the shank adjacent to the wheel conforming to the configuration of the latter. Each brake-shoe is provided in its shank with a curved slot or opening 2 and is mounted on the truck-frame by means of a bracket 3, having a web 4, arranged in the slot or opening of the shank, and the brake-shoe is retained on the web or stem 4 by inner and outer washers or plates 5, having

openings receiving the web or stem, the inner washer or plate being provided with a clamping-screw 6 for securing it to the bracket. 55

The brake-shoes are connected and supported by a substantially rectangular brace 7, having its terminals secured to the inner faces of the brake-shoes at the heels thereof, and the sides of the rectangular brace are inwardly offset to clear the car-wheels 8. 60

Each brake-shoe is provided with a lower flat track-engaging face 9, provided with tapered and shouldered teeth or serrations, and having at the inner edge thereof a depending flange 10, located at the inner sides of the rails, and this track-engaging face 9 is preferably formed of a separate plate bolted or otherwise secured to the shoe and adapted to be readily replaced when the serrations or teeth become worn; but any other desired construction of shoe may be employed—that is, instead of employing a separate plate an integral construction may be used. 70

When the brake-shoes are elevated, as illustrated in Fig. 1 of the accompanying drawings, they are entirely clear of the wheels, and when lowered to bring them into operative position they frictionally engage the wheels, and the toes or points of the shoes which form wedges are interposed between the wheels and the track and thereby form an efficient brake, as the weight of the car is supported by the shoes. The shoulders or teeth of the brake-shoes are adapted to penetrate any ice or coating that may be on a track, and the brake is as efficient in winter as in summer, and is adapted to stop a car instantly. 80

The raising and lowering of the brake-shoes is accomplished by means of circular eccentrics 11 and curved connecting-bars 12, pivoted at their lower terminals to the outer faces of the brake-shoes. The circular eccentrics consist, essentially, of rings fulcrumed at their bottoms on depending arms 13 of a transverse beam 14, which extends through the eccentrics, and the latter are provided at their tops and rear sides with peripheral openings to receive the upper terminals of the curved connecting-bars 12 and to accommodate the rear ends or inner ends of longitudinally-disposed connecting-bars 15. The connecting-bars 15 have their outer terminals pivoted to arms 16 of a transverse rock-shaft 17, which has a cen- 90 95 100

tral depending arm 18, connected by a rod 19 with an operating-lever 20. The upper terminals of the curved connecting-bars 12 are adjustably connected with the circular eccentrics by means of series of perforations, and the outer terminals of the longitudinal connecting-rods 15 are provided with perforations, and by these means the parts may be readily adjusted.

10 The rock-shaft 17 is fulcrumed on one end of the truck-frame, or may be mounted at any other desired point, and the operating-lever is located on one of the end platforms adjacent to the dashboard, and is provided with a slot 21, which is adapted to be engaged by a gravity-latch 22, mounted on a stand 23. The stand 23 is provided with opposite sides, having slots or openings 24 conforming to the slot or opening of the operating-lever, and 20 the gravity-latch is substantially L-shaped, and is fulcrumed at its angle between perforated ears at the top of the slot or opening at one side of the stand. The longer arm of the gravity-catch has sufficient weight to hold the shorter arm in the slots or openings, whereby the operating-lever is securely locked to hold the brake off the wheels. An operating rope or cord is connected with the latch lever or catch, and is designed to extend from one 30 end of the car to the other to enable the brake to be applied at any point on the car.

The brake is automatic in its operation, as the brake-shoes have sufficient weight to cause them to move downward when free to fall, 35 and as soon as they engage the wheels of the car the latter also operates to force the brake-shoes downward into operative position, and the momentum of the car will carry the wheels on top of the brake-shoes, and the weight of the car will materially assist in stopping the 40 latter.

It will be seen that the brake is simple and effective, that it possesses great power, and that it is capable of instantly stopping a car, 45 and is thereby especially adapted as a safety or emergency brake to supplement the ordinary friction-brake, and it may be applied to a car without interfering with the ordinary construction of brake mechanism.

50 Changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

55 What I claim is—

1. In a car brake, the combination with a transverse beam having a projecting arm, of a brake shoe, a curved eccentric consisting essentially of a ring encircling the beam and 60 the arm and pivoted to the latter, a connecting bar pivoted to the eccentric and to the brake shoe, and operating mechanism connected with the eccentric, substantially as described.

65 2. In a car brake, the combination with a car, of a brake shoe, a circular eccentric ful-

crumed at its bottom on the car, a connecting bar pivoted to the eccentric and to the brake shoe, and a rock-shaft connected with the eccentric, substantially as described. 70

3. In a car brake, the combination of a car, brackets mounted on the car and having webs or flanges arranged adjacent to the car wheels, the substantially L-shaped brake shoes conforming to the configuration of the 75 wheels and arranged to engage the same and the track, and provided with curved slots or openings receiving the flanges or webs of the brackets, and means for raising the brake shoes and for holding them clear of the 80 wheels, substantially as described.

4. In a car brake, the combination of a car having a transverse beam provided with depending arms, the brake shoes arranged adjacent to the wheels and slidably mounted 85 on the car, the circular eccentrics encircling the beam and fulcrumed on the arms thereof, the curved connecting bars extending from the eccentrics to the brake shoes, a rock-shaft provided with opposite arms, the longitudinal 90 connecting bars extending from the arms to the eccentrics, and means for operating the rock-shaft, substantially as described.

5. In a car brake, the combination of a car, the brake shoes guided thereon and arranged 95 to engage the wheels and the track, the substantially rectangular brace secured to the brake shoes, the circular eccentrics connected with the brake shoes, an operating lever connected with the eccentrics, and a fastening 100 device for engaging the locking lever for holding the brake-shoes elevated, substantially as described.

6. In a car brake, the combination of a car, the substantially L-shaped brake shoes having 105 curved wheel engaging faces, and a flat track engaging face, and mounted for upward and downward movement on the car, an operating lever connected with and adapted to raise the brake shoes and provided with a 110 slot or opening, a stand composed of opposite sides adapted to receive the operating lever and having slots or openings to correspond and register with that of the lever, and an L-shaped gravity catch fulcrumed at its angle 115 on the stand and having its short arm arranged to enter the said openings, substantially as described.

7. In a car brake, the combination of a beam having an arm, a circular eccentric encircling 120 the beam and fulcrumed on the arm, and opposite connections pivotally connected with the eccentric and extending therefrom, substantially as described.

In testimony that I claim the foregoing as 125 my own I have hereto affixed my signature in the presence of two witnesses.

CORNELIUS B. OVIATT.

Witnesses:

W. W. LEEPER,
H. SPINNING.