

No. 754,844.

PATENTED MAR. 15, 1904.

J. A. BRADER.
TRACK BRAKE FOR CARS.
APPLICATION FILED JUNE 4, 1903.

NO MODEL.

2 SHEETS—SHEET 1.

Fig. 2.

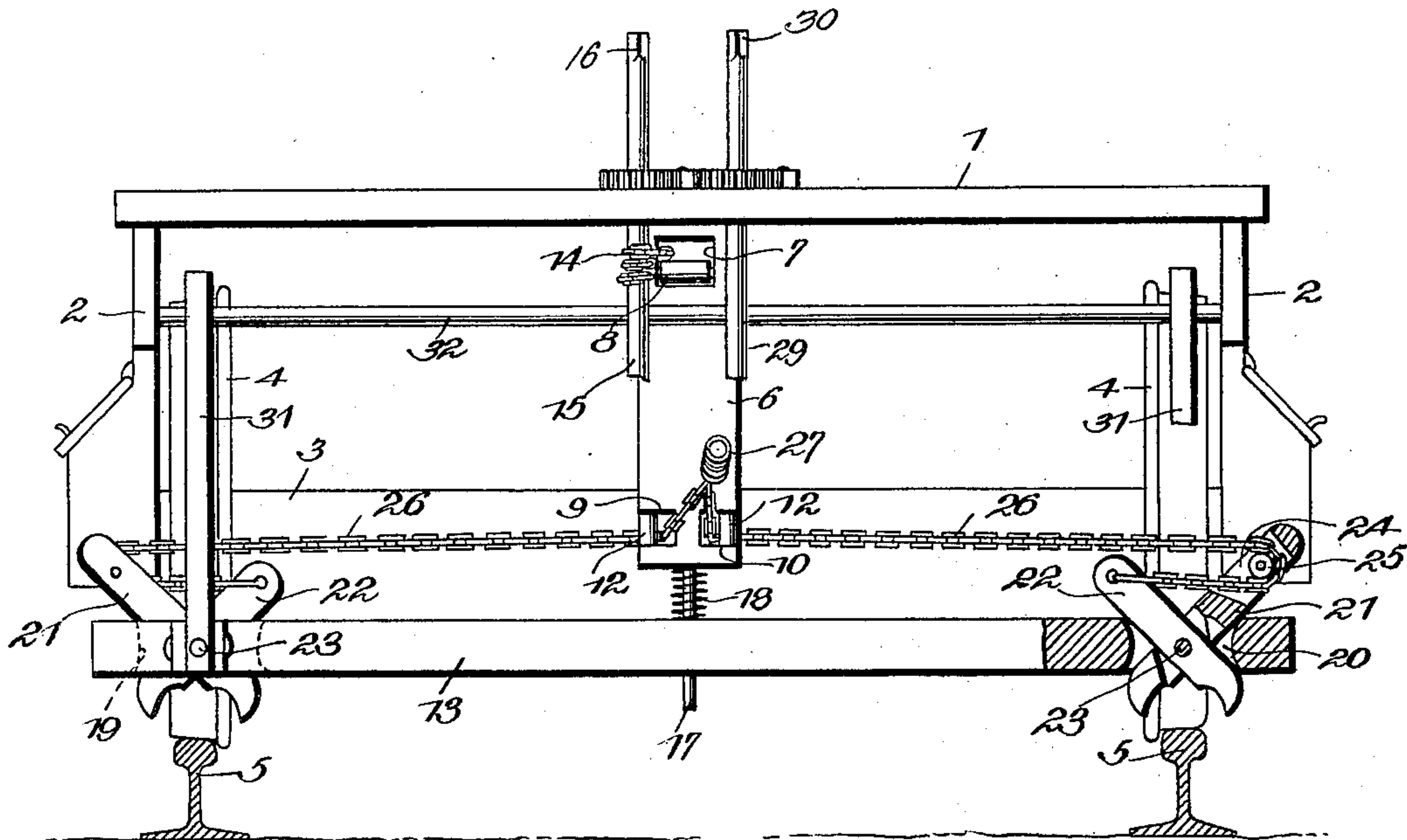
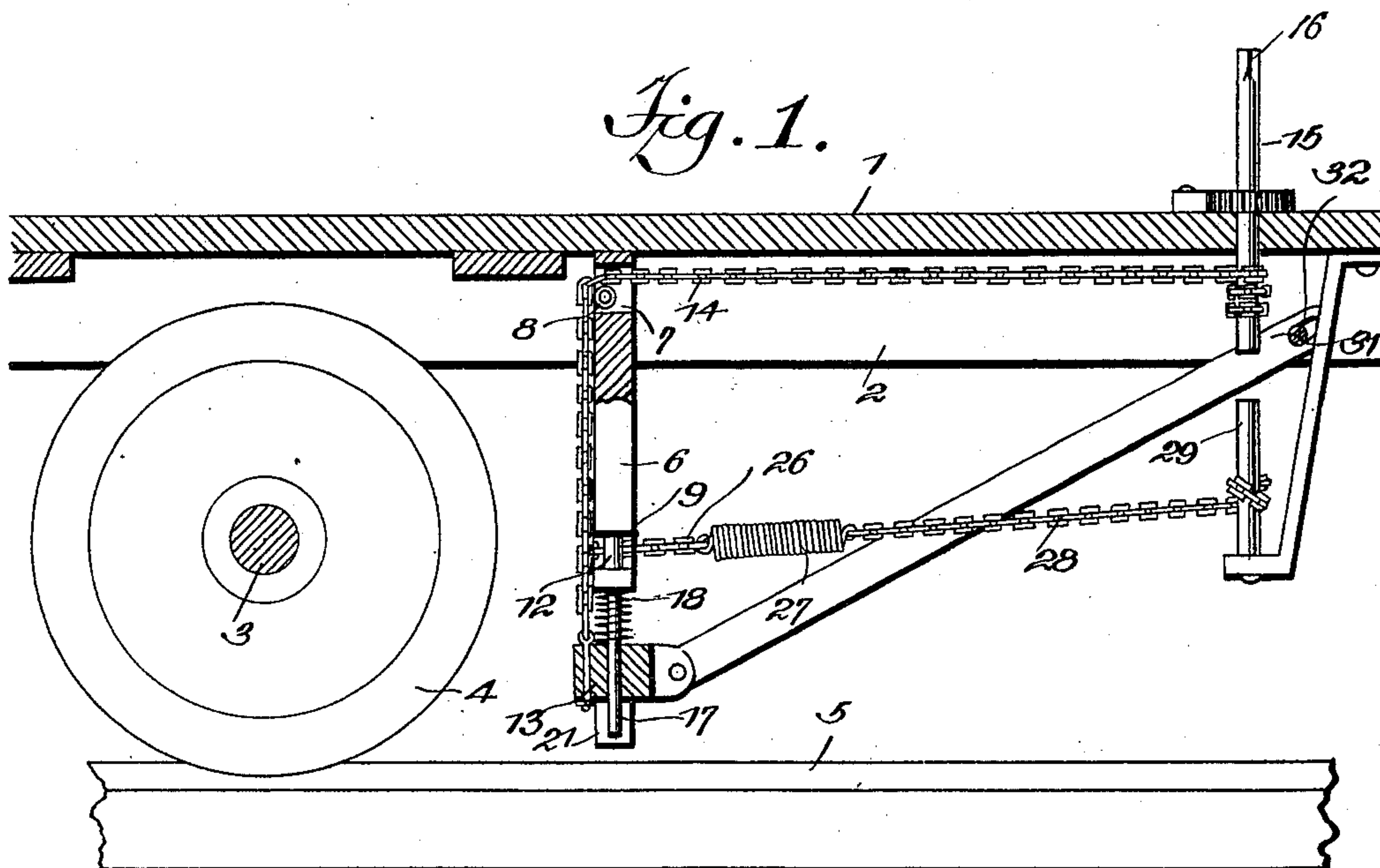


Fig. 1.



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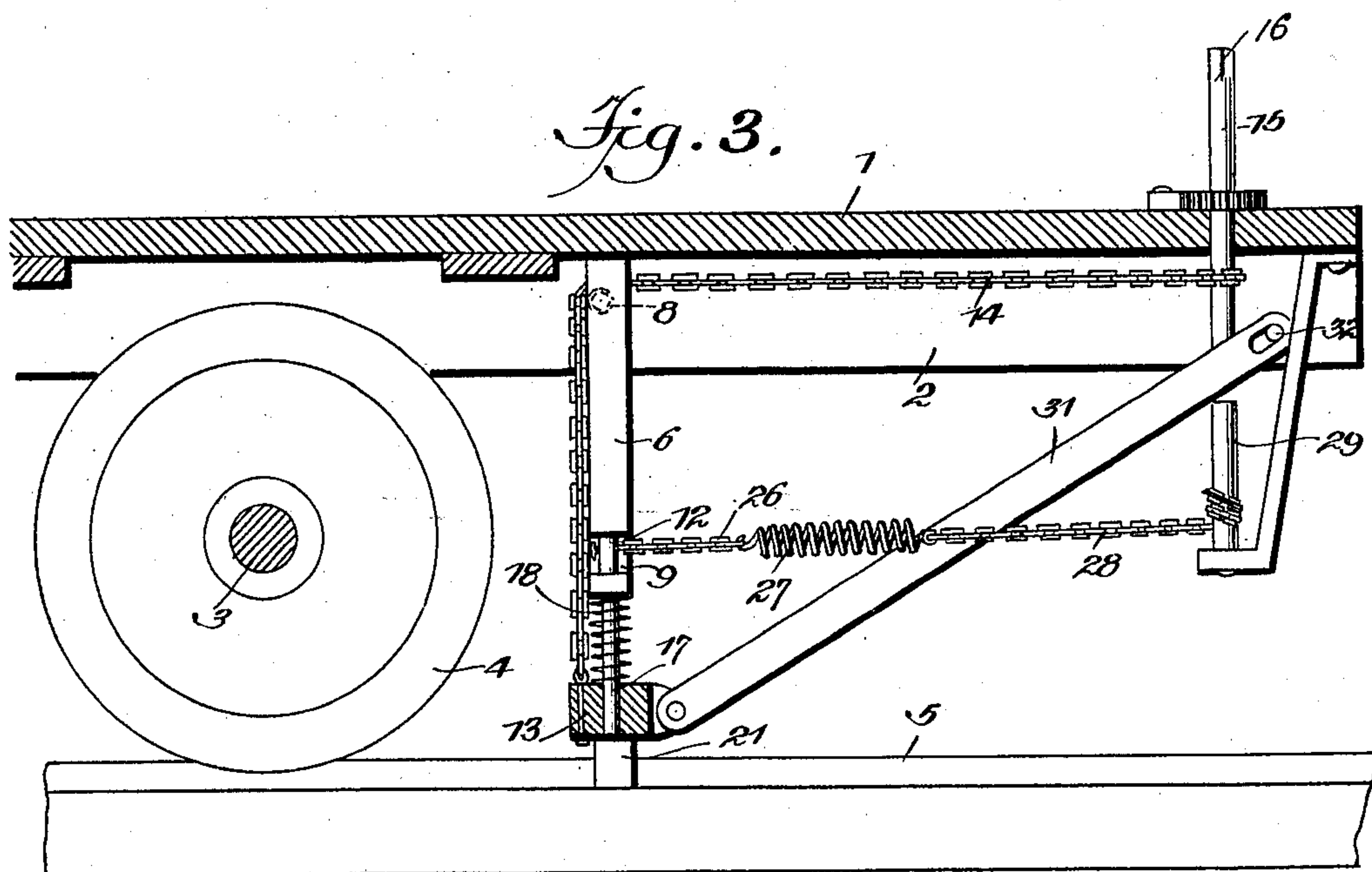
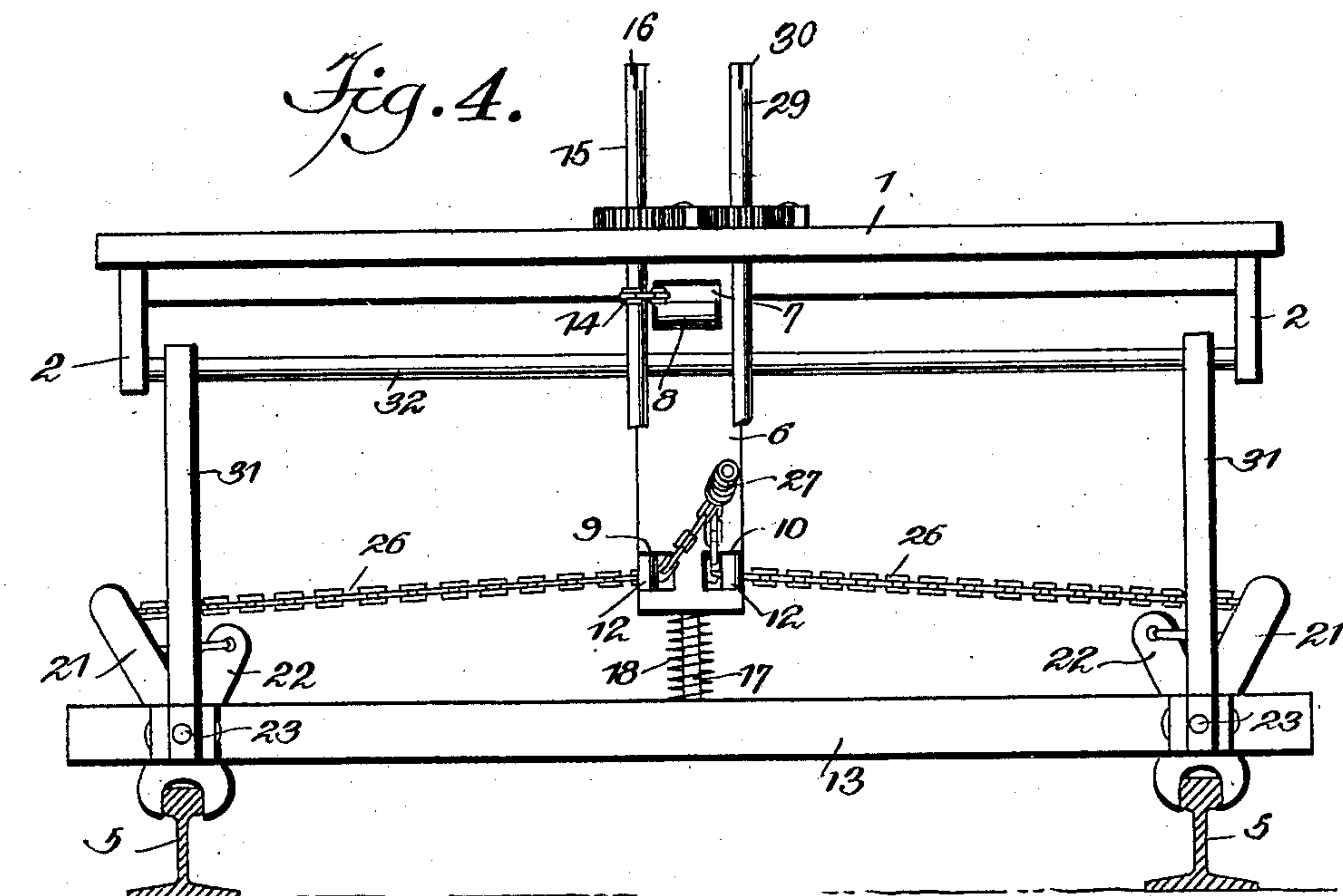
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

JOHN A. BRADER, OF ALLENTOWN, PENNSYLVANIA.

TRACK-BRAKE FOR CARS.

SPECIFICATION forming part of Letters Patent No. 754,844, dated March 15, 1904.

Application filed June 4, 1903. Serial No. 160,136. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. BRADER, a citizen of the United States, residing at Allentown, in the county of Lehigh and State of Pennsylvania, have invented a new and useful Improvement in Track-Brakes for Cars, of which the following is a specification.

My invention relates to track-brakes, and has for its objects to produce a device of this character which will be simple of construction, efficient in operation, one in which the brake-beam when released will be automatically moved downward to bring the brake shoes or jaws into proper position relative to the rails, and one in which the shoes or jaws will be pressed into yielding engagement with the rails to effect stoppage of the car and at the same time obviate the usual jolting attendant upon such operation.

To these ends the invention comprises the novel details of construction and combination of parts more fully hereinafter described.

In the accompanying drawings, Figure 1 is a central longitudinal sectional elevation of a car having my invention applied thereto. Fig. 2 is a front elevation of the same, showing the parts in normal position. Fig. 3 is a view similar to Fig. 1, illustrating the parts in braking position. Fig. 4 is a front elevation, the parts being in the position as in Fig. 3.

Referring to the drawings, 1 indicates a car-platform provided with bolster-frames 2, in which are journaled the ends of axles 3, carrying wheels 4, which travel upon rails 5. These parts may all be of the usual or any suitable or desired construction and material, inasmuch as they constitute no part of my invention.

In accordance with my invention I mount beneath the platform 1 a vertically-disposed member 6, which has its upper end attached to the platform in any suitable manner. This member is provided adjacent to its upper end with a central aperture 7, in which is mounted for rotation a horizontal roller 8, the member being further provided adjacent to its lower end with lateral recesses 9 10, in which are journaled, respectively, for rotation rollers 12.

13 is a brake-beam suspended beneath the platform 1 and just in advance of the front pair

of wheels 4 by means of a chain or similar flexible connection 14, which is attached at its lower end in any suitable manner to the brake-beam, passes upward therefrom over the roller 8, and thence forward beneath the platform 5 and has its outer end attached to an operating-lever 15, squared at its upper end, as at 16, for engagement by a suitable operating-crank, the lever being of the rotary type and provided with the usual pawl-and-ratchet mechanism by which it is held when actuated to wind the chain 14 and to prevent unwinding of the latter, as more fully hereinafter explained.

17 is a guide-rod, which is attached to and extends vertically downward from the member 6 and loosely through the brake-beam 13 for guiding the same when raised and lowered by the chain 14.

18 is a normally-expanded spring mounted upon the guide-rod 17 between the member 6 and brake-beam 13 and tending by expansion to force the brake-beam downward toward the rails 5. In this connection it is to be noted that the brake-beam is normally maintained in an elevated position, with the spring 18 compressed between the same and the member 6, due to the chain 14 being wound upon the lever 15, and that when the pawl-and-ratchet mechanism is suitably actuated to release the lever the spring 18 will automatically press the beam 13 downward, at the same time unwinding the chain 14 from the lever, this downward movement of the beam being for a purpose which will presently appear.

The beam 13, which is horizontal, extends transversely of the car-platform and has its ends directly over the rails 5 apertured, as at 19 20, and pivoted within each of the apertures is a pair of brake shoes or jaws comprising a primary jaw 21 and a secondary jaw 22, said jaws being relatively movable upon their pivot 23 and having their lower ends formed for engagement with the rails 5 and their upper ends weighted for the purpose which will be presently described. The jaw 21 has its upper end transversely recessed or apertured, as at 24, and within said aperture is journaled for rotation a roller 25. Each of the secondary jaws has attached in any suitable manner

to its upper end a chain or other suitable flexible member 26, which extends outward around the roller 25 of the primary jaw 21, thence inward around the roller 12, carried by the member 6, the inner ends of the chains 26 being extended forward of the member 6 and attached to the rear end of a spring 27, the forward end of which is attached to a chain or the like 28, which constitutes, in effect, a continuation of the chains 26 and which is attached at its forward end to a rotary operating-lever 29, squared at its upper end, as at 30, for the engagement of an operating-crank, the lever being controlled, as usual, by suitable pawl and ratchet. In this connection it is to be noted that when the lever 29 is actuated for winding the chain 28 the same will through the medium of spring 27 and branch chains 26 draw the upper ends of the jaws 21 22 toward each other, thus moving the lower gripping ends of the jaws relatively inward for gripping the rails 5, while at the same time the spring 27 permits the jaws to yield slightly, thus yieldingly engaging the rails and insuring a gradual stopping of the car to obviate the shock and jar attendant upon a sudden stoppage of the latter.

31 31 indicate a pair of braces, which are pivoted at their outer ends upon a transverse rod 32 and at their inner ends to the brake-beam 13, the function of these braces being to strengthen and guide the beam in its movements and to prevent lateral displacement thereof.

The operation, generally stated, is as follows: Supposing the parts to be in the position illustrated in Figs. 1 and 2 with the chain 14 wound upon the lever 15, the brake-beam will hold the brake-jaws just above the rails and out of engagement therewith, the jaws at such time being maintained in their normal open position by the gravity of their upper weighted ends. With the parts in this position, if it is desired to apply the brake, the lever 15 is released and the spring 18 moves the brake-beam downward, carrying the brake-jaws into position upon the rails. The lever 29 is then manipulated for winding the chain 28, and this action through the medium of the spring 27 and branch chains 26 serves in the manner above described to actuate the jaws for gripping the rails, this gripping of the rails being yielding, as above explained. When the lever 29 is again released, the jaws 21 22 open by gravity to release the rails and the parts may be again readily moved to normal position by operating lever 15 to wind the chain 14.

From the foregoing it will be seen that I produce a simple and efficient mechanism which is admirably adapted for the attainment of the ends in view; but it is to be un-

derstood that I do not limit or confine myself to the details herein shown and described, inasmuch as various minor changes may be made therein without departing from the spirit or scope of my invention.

Having thus described my invention, what I claim is—

1. The combination with a car, of rails upon which the same travels, a member associated with the car and provided with horizontal and vertical guide-rollers, a brake-beam, a chain or the like connected with the brake-beam and extended over the horizontal roller, means for operating the same, pivoted brake-jaws associated in pairs with the brake-beam, chains or the like extended around the vertical guide-rollers and connected with the brake-jaws for operating the same, and means for operating said chains.

2. The combination with a car, of rails upon which the same travels, a member associated with the car and provided with horizontal and vertical guide-rollers, a guide carried by the member, a brake-beam movable upon the guide a spring tending to force the beam downward, a chain or the like connected with the beam and extended over the horizontal roller, means for operating the chain to raise the beam, pivoted brake-jaws associated in pairs with the beam, chains or the like extended around the vertical guide-rollers and connected with the brake-jaws for operating the same, and means for operating the chains.

3. The combination with a car, of rails upon which the same travels, a member associated with the car and provided with horizontal and vertical guide-rollers, a brake-beam, a chain or the like connected with the beam and extended over the horizontal roller, means for operating the same, pivoted brake-jaws arranged in pairs and carried by the brake-beam, chains or the like connected to the brake-jaws for operating the same, means for operating the chains, and a spring interposed between the chains and the operating means.

4. The combination with a car, of rails upon which the same travels, a movable brake-beam, pivoted brake-jaws associated in pairs with the brake-beam and weighted to open by gravity, the primary jaw of each pair being provided with a guide-roller, chains or the like connected with the secondary jaws and extended around the guide-rollers of the primary jaws and means for operating the chains to close the jaws.

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

JOHN A. BRADER.

Witnesses:

W. D. LUCKENBACH,
B. F. DIEHL.