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PATENTED AUG. 25, 1908.

W. A. RIDEOUT, Sr.

BRAKE SETTER.

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Fig. 1.

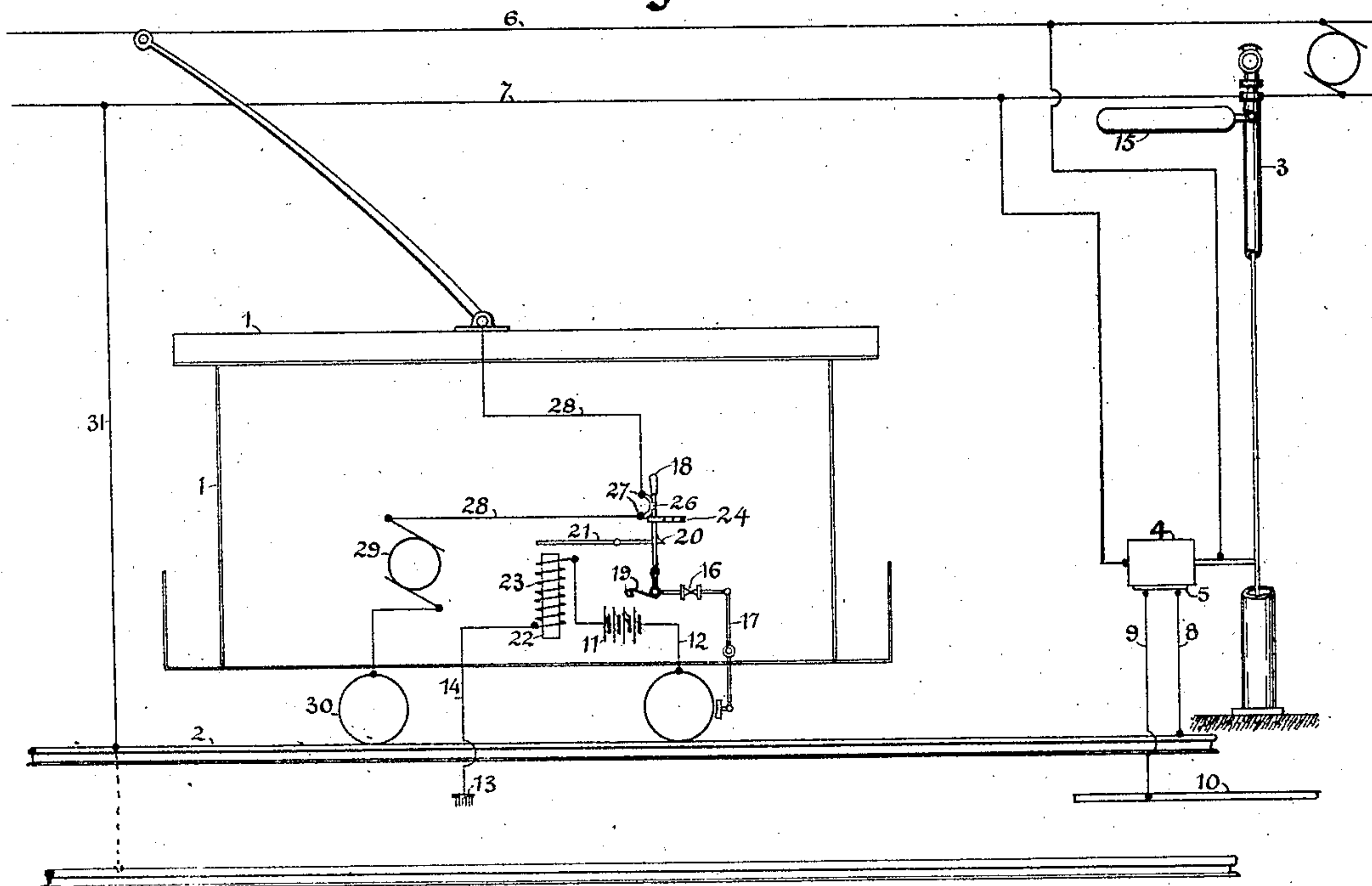


Fig. 3.

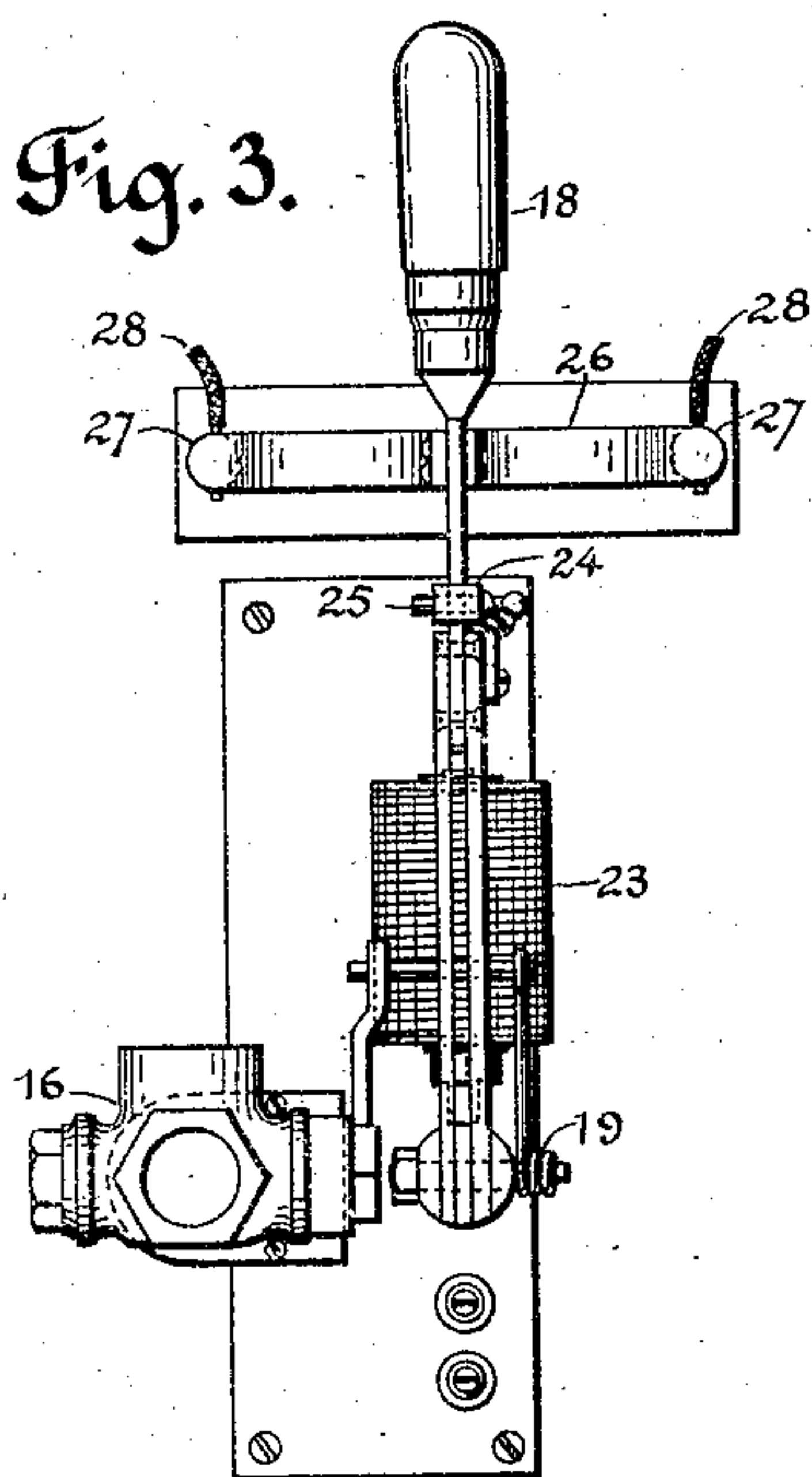
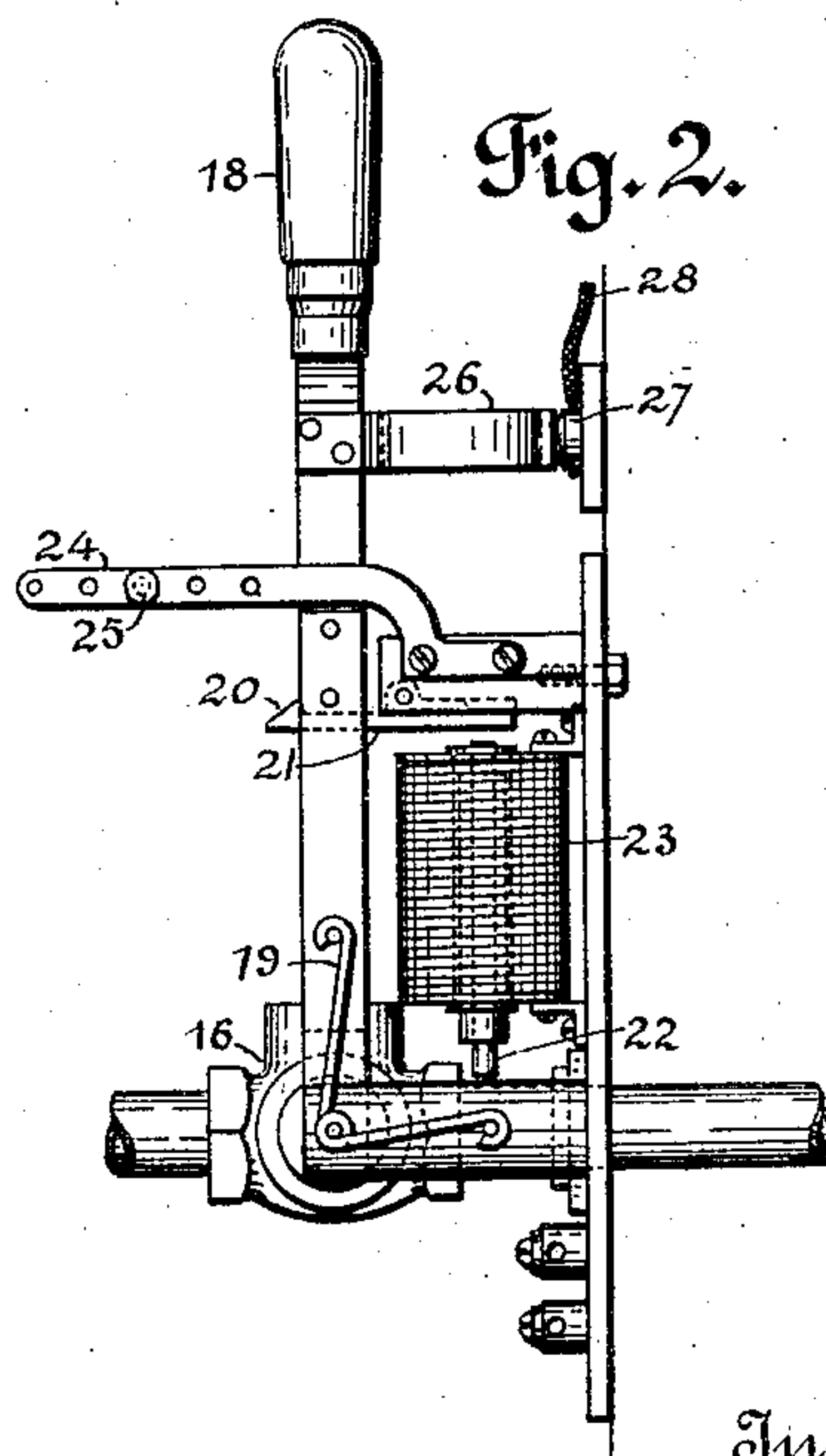


Fig. 2.



Witnesses
Geo. Schuerm
C. H. Griesbauer

Inventor
W. A. RIDEOUT, Sr.

by *A. B. Wilson & Co.*
Attorneys

UNITED STATES PATENT OFFICE.

WILLIAM ALBERT RIDEOUT, SR., OF OSHKOSH, WISCONSIN.

BRAKE-SETTER.

No. 897,149.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM A. RIDEOUT, Sr., a citizen of the United States, residing at Oshkosh, in the county of Winnebago and State of Wisconsin, have invented certain new and useful Improvements in Brake-Setters; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to brake setting mechanism for engines or motors which are actuated by steam or electricity, and it has for its object to provide means whereby when a signal has been displayed at any point and the motor or engine is not stopped by the engineer or other person in charge, the brake setting mechanism is automatically thrown into operation; and where the car or engine is being driven by electrical power, the circuit for such power is automatically and simultaneously broken at the time that the brake setting mechanism is operated.

In the accompanying drawings, which illustrate an embodiment of the invention, Figure 1 is a diagrammatic view of mechanism by which the invention may be practiced; Fig. 2 is an enlarged side elevation of the means for automatically setting the brake mechanism in operation; and Fig. 3 is a front view of said mechanism.

Referring more particularly to the drawings, 1 indicates a car which in the present instance is shown as being electrically driven, although it can be propelled by steam or other motive power with the same results so far as brake setting mechanism is concerned.

Located adjacent to the track 2 are suitable signal stations 3, only one of which is shown, which may be of any desired construction. In each of said stations or signals a circuit closer, as a roller, 4, provided with a segment 5, or other means for closing a circuit, is adapted to be actuated by the signal setting mechanism which can be driven by means of a current from line wires 6 and 7, or otherwise. Two wires 8 and 9 are adapted to be engaged by the contact or segment 5, whereby a circuit may be completed through them. One of the wires, as 8, is connected with one or both of the track rails, 2, and wire 9 is connected with an insulated rail, 10, which is

located at any point convenient to the track rails, 2, it being shown midway between them in the drawing, but it is evident that it could be located at either side of them with equal efficiency.

The car 1 is provided with a battery 11, of any suitable kind, one side of which is connected with the car wheels through the wire 12, and the other side is connected with a brush, 13, through a wire 14. The brush 13 is adapted to engage with the third rail, 10, as the car passes over it, and thereby complete a circuit through the battery if the roller 4 has been rotated so as to cause the contact 5 to engage with the wire 9 and thereby complete the circuit from wire 6 and cause the current that operates the car to set the brake setting device. As the contact 5 is never in engagement with the wires 8 and 9, except when the signal 15 is set so as to notify the engineer to stop, the circuit will never be completed through the wires 8 and 9, and contact brush 13, except when it is desired that the car be stopped at the station. To insure that the car should stop at the station when the signal is given in this manner, means are provided for automatically opening the air valve, 16, of the brake setting mechanism, 17, and thereby permit the brakes to be automatically applied and thus bring the car to a standstill. The valve 16 may be actuated in any desired manner, but I prefer to control it by means of a lever, 18, which is normally held against the action of a spring, 19, by a catch, as a hook, 20, on one end of a pivot lever, 21. The lever 21 is adapted to be actuated to release the lever or handle, 18, by means of an upward movement of the core 22 of an electro-magnet, 23, which is connected with the wire 14. By constructing and arranging the parts in this manner, it is evident that as soon as a circuit is completed through the brush 13 and contact 5, the coil 23 will be energized and the core 22 moved longitudinally so as to actuate the lever 21 and thereby release the handle, 18, from the catch 20, when the spring 19 will immediately throw the lever 18 forward and thus open the valve 16 and permit the application of the brake 17 in the ordinary manner. A perforated extension, 24, may be located adjacent to the handle 18 and provided with a pin, 25, or other means for adjus-
tably limiting the forward movement of the handle when it has been released from the catch 20. In this manner the automatic

movement of the handle 18 can be so regulated as to apply the brakes with any desired degree of pressure and thereby check the speed of the train or bring it to a full stop.

5 When it is desired to release the brake mechanism as when it is safe for the car 1 to go forward and the contact 5 has been moved out of engagement with the wires 8 and 9, with the movement of the signal 15 the handle 18 is drawn back into engagement with the catch 20 and is held in that position until after the circuit has been again completed through the battery 11 and the electro-magnet has been energized so as to release the catch 20 from the handle 18 which will again cause the brake mechanism to be actuated as above described.

Where the car is electrically driven, as shown in the drawings, the handle 18 is provided with means for automatically breaking the circuit from the main wire when the handle is thrown forward by the spring 19. In the drawings I have shown such means as comprising a switch member, 26, secured to the handle in position for its ends to engage with the terminals 27 of the wire 28 leading from the line wire 6 to the dynamo 29, and from there to the car wheel 30 and back to the line wire 7 through the track and wire 31. The switch member 26 is preferably formed as a laminated spring of copper, with its ends adapted to be forcibly engaged with the contact points 27 of the wire 28.

By providing the handle with means for automatically breaking the circuit simultaneously with the opening of the valve to control the brake mechanism, it is evident that it would be absolutely impossible for an electrically driven car to pass beyond any point or station in which means were provided for automatically closing a circuit and releasing the means for controlling said circuit and valve.

The apparatus is very simple and compact and can be applied in whole or in part to any style of engine or car with but slight expense and comparatively no change in the means now provided for doing such work manually.

50 It is also evident that the lever 18 could be provided with means for automatically shutting off the steam from an engine, but such mechanism has not been shown, as it may be of any desired construction and connected

with the handle or lever as by means of a straight rod or pitman. In this manner the power from the engine would be automatically shut off simultaneously with the application of the brake and the train would thereby be brought to a standstill whether the engineer did his duty or failed to act in accordance with the instructions conveyed by the signal.

When the car is operated by steam or other power than electricity, and the current that operates the signal is not of sufficient strength to lift the core 22 of the magnet 23, then an additional source of electrical energy may be carried on the car or engine and connected with the magnet 23 in any ordinary manner.

Having described my invention, I claim:

1. In a traction system, a track, electrical conductors adjacent thereto, a car adapted to be moved upon said track, means for establishing electrical communication between the electrical conductors and the brake, a signal adjacent to the track and provided with a movable contact, an insulated rail adjacent to the track, conductors from said rail and the track adapted to be engaged by said contact, an electrical battery on the car provided with a brush adapted to engage with said insulated rail, brake mechanism for the car, a handle for controlling said brake mechanism and provided with means for controlling the electrical communication between the first-mentioned conductors and the car wheel, a lock for said lever, and an electro-magnet in said circuit on the car for actuating said lock to release said lever.

2. In a car provided with brake setting mechanism, electrical terminals, a valve for the brake setting mechanism, a spring pressed lever connected with said valve, and provided with means for engaging with said contact points, a lock for said lever, and an electrical circuit provided with an electro-magnet for actuating said lock to release said lever.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILLIAM ALBERT RIDEOUT, SR.

Witnesses:

A. T. HENNIG,
EDWARD FLYNN.