

J. B. ATWOOD.
RAILWAY CAR CONTROL APPARATUS.
APPLICATION FILED AUG. 16, 1906.

916,405.

Patented Mar. 30, 1909.
2 SHEETS—SHEET 1.

Fig. 1

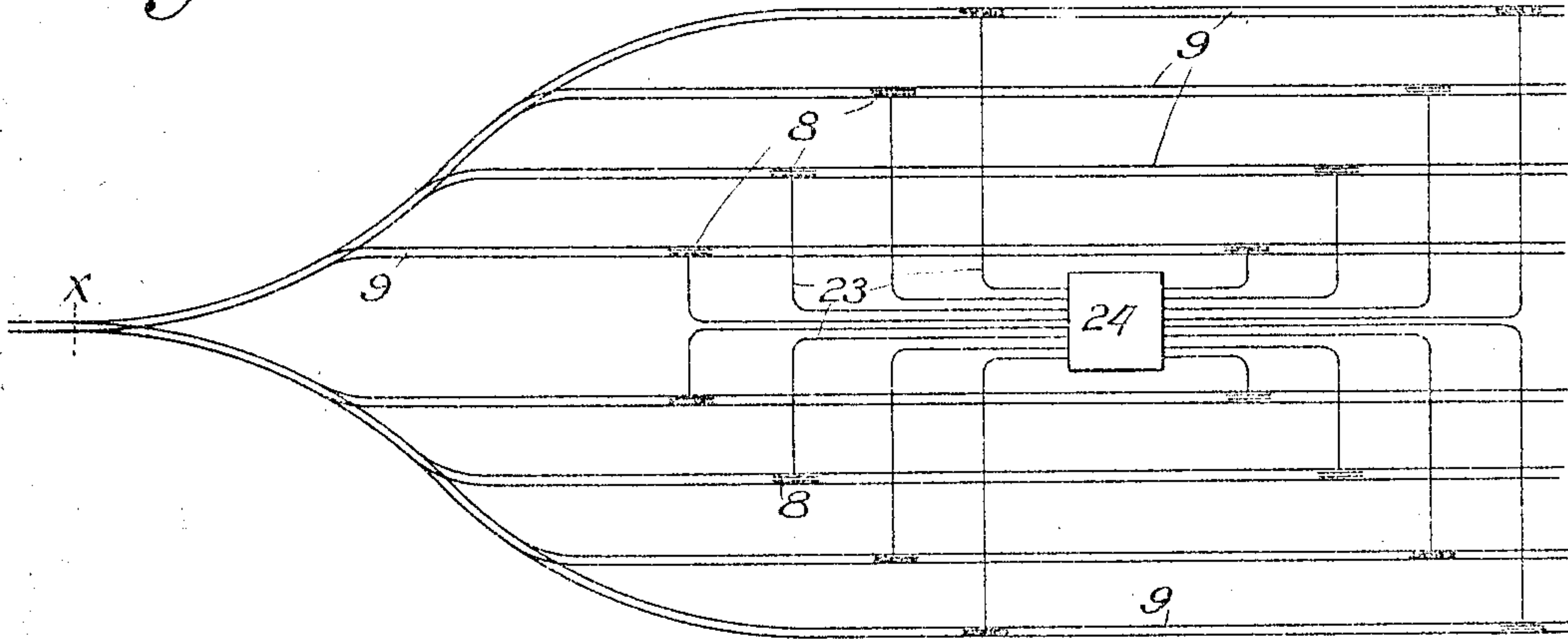


Fig. 2

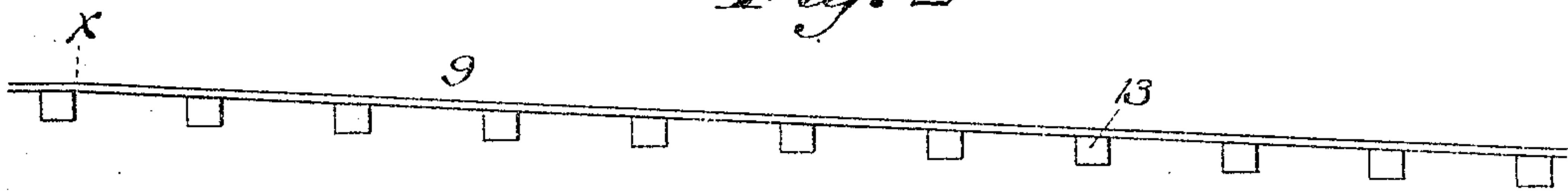


Fig. 6

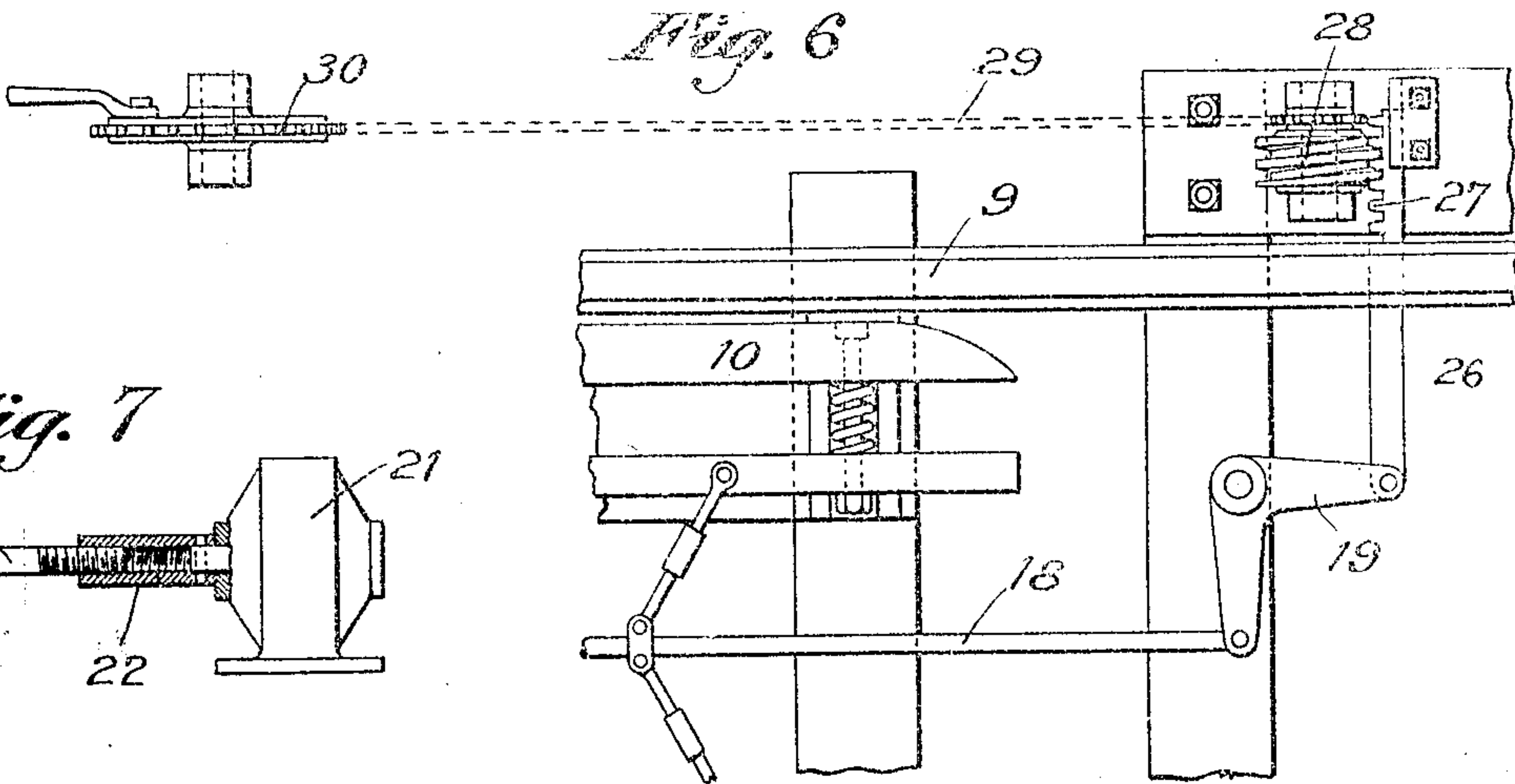
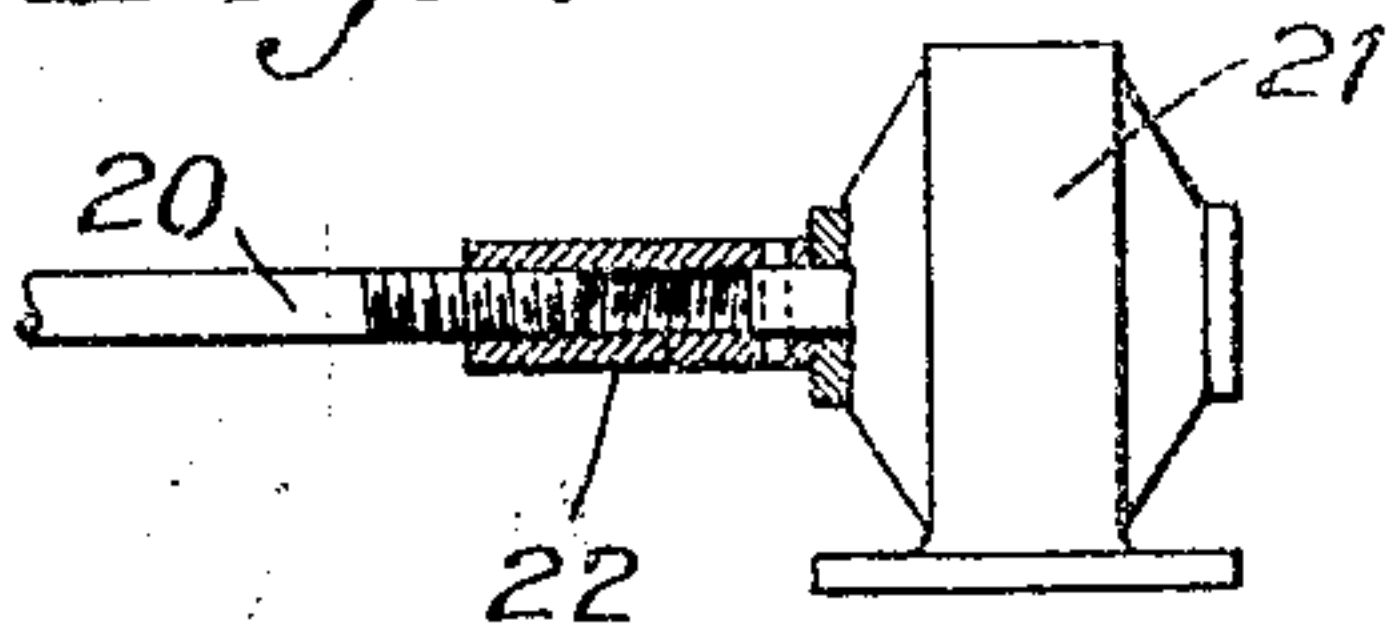


Fig. 7



Witness:
Chas. S. Spley
C. M. Clarke

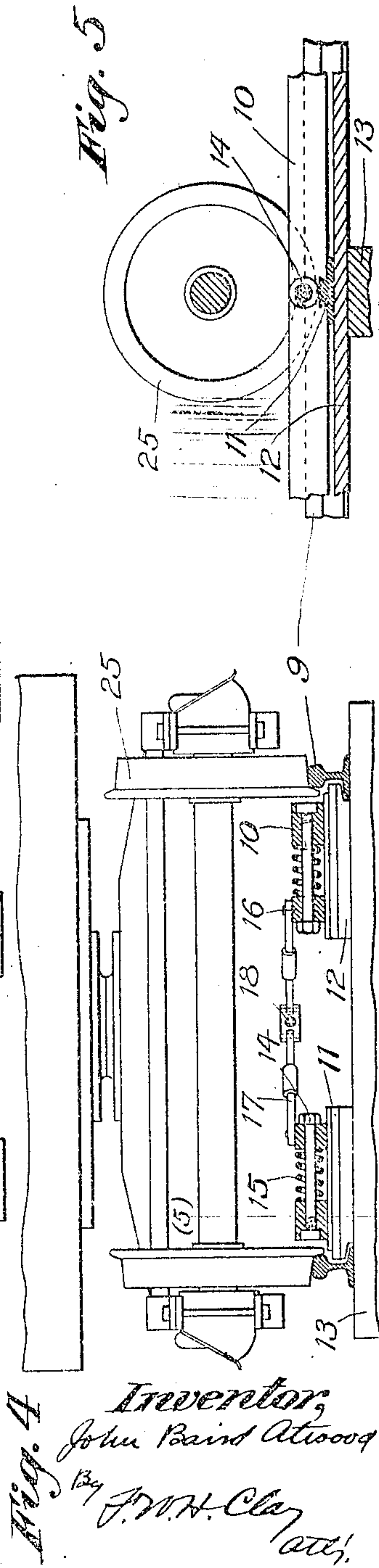
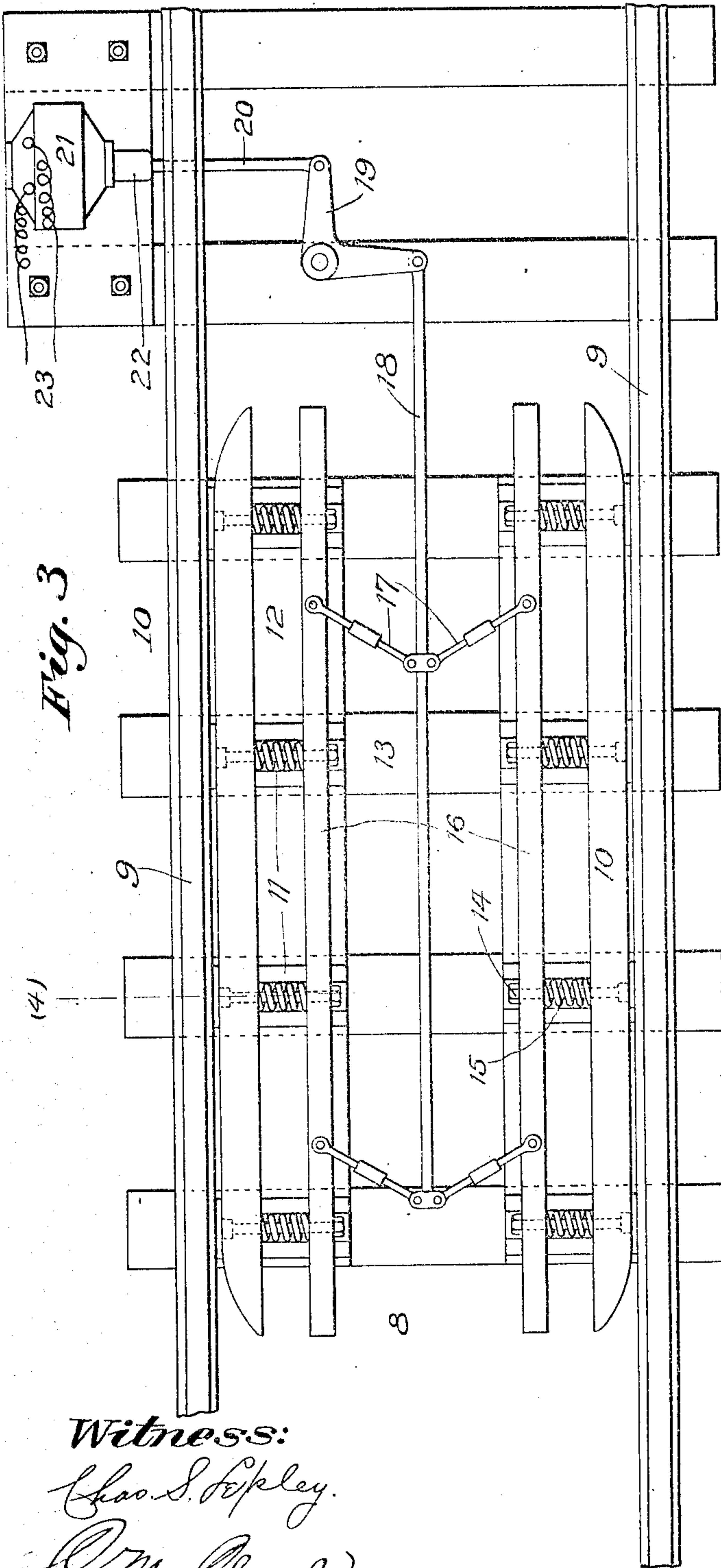
Inventor,
John Baird Atwood
By J. W. H. Clay att.

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2 SHEETS—SHEET 2.



UNITED STATES PATENT OFFICE.

JOHN BAIRD ATWOOD, OF ALLEGHENY, PENNSYLVANIA.

RAILWAY-CAR-CONTROL APPARATUS.

No. 918,405.

Specification of Letters Patent.

Patented March 30, 1909.

Application filed August 16, 1906. Serial No. 330,917.

to all whom it may concern:

Be it known that I, JOHN BAIRD ATWOOD, a citizen of the United States, residing at Allegheny, in the State of Pennsylvania, have invented certain new and useful Improvements in Railway-Car-Control Apparatus, of which the following is a specification.

My invention relates to means acting from 10 without the car for retarding or stopping cars on the track, and especially to stationary track brakes for use on the switches of railway yards.

The objects of the invention are, to provide a local brake for engaging the wheels 15 of a moving car to stop it on the track at a predetermined point, said brake being regulable; to provide a series of automatic track brakes capable of manipulation from a distance and of adjustment in power; to 20 provide improved brake operating mechanism, and to generally improve and cheapen the construction of track brakes. These objects and other advantages to appear hereinafter, are attained by the structures illustrated in one form in the accompanying drawings.

Figure 1 is a plan, and Fig. 2 is a side elevation, of the tracks of a railway switch 30 yard. Fig. 3 is a plan view of one of the track brakes. Fig. 4 is a cross section on the line (4) in Fig. 3, showing the car wheels in place in the brake. Fig. 5 is a section on line (5) in Fig. 4. Fig. 6 is a sketch showing a modified means of operating the brakes. Fig. 7 is a detail section of the shaft of the actuating motor in Fig. 3.

It is customary in railway practice to provide a switch yard having a summit of elevation, from which branch out the several 40 tracks for shifting cars and making up trains, the switches being on an incline so that the cars may be moved by gravity and run down any switch track desired, to its proper place. It has been customary to 45 stop the single cars at the positions desired by means of hand brakes, which is expensive and has various evident dangers and disadvantages. My apparatus provides for 50 automatic control and stoppage of such cars, and the operation of all is accomplished from a distant central observation tower. Thus, at various points on each of the branch tracks 9, 9, are placed pairs of stationary 55 brakes 8, 8. These are all operated, preferably, by electrical means, from a centrally

located observation tower 24. The preferred form of this brake in detail, as shown in Figs. 3, 4, and 5, comprises next to each rail 9, presser bars 10 which are mounted 60 to slide on guide plates 11, bolted to a board 12 resting upon the tie 13 inside the rails, moving to and from the rail and opposite to each other. Bar 10 is connected by bolts 14 and springs 15 to the supplementary bar 65 16, which also slides similarly, so as to vary the pressure on the springs 15 and move presser bar 10, or vary the distance between these two bars. In order to accomplish this movement I preferably provide a series of 70 toggle-levers 17 which are operated by central rod 18 by any convenient means. I have shown them in this instance as operated by means of bell crank lever 19 and a threaded rod 20 which is in turn reciprocated by a motor 21 provided with a revolving 75 nut 22 threaded so as to operate on rod 20. The motor is energized by wires 23 from the central tower station 24, where are provided proper switches to reverse the 80 motor and also to turn it at whatever speed may be desired.

Normally the pressure bar 10 stands at proper distance from the rail 9, to clear the 85 inside of the car wheel 25. The springs 15 allow the bar to yield when the bar is moved against the wheel, and the amount of pressure thus induced on the wheels depends upon the position of the supplementary bar 16; the fixed position, as well as the movement of this bar is regulated by the motor as 90 before described. Thus when the car reaches the spot at which it is desired to stop it the presser bar 10 is shoved against the car wheels with whatever force is necessary to 95 either slow it up or to stop it, as may be desired. The construction of the operating screw is such that the brake can not itself move the motor, and consequently is locked in any position against movement by the 100 brake. The brake is released by reversing motor 21, and its pressure on the wheel is also regulated by the turning of the motor shaft and actuating nut 22 (Fig. 7). The brake bars taking effect upon the inside of 105 the wheels with equal pressure do not affect the track alinement, and they should engage the wheel a little above the top level of the rail, as shown in Figs. 4 and 5 so as to be in contact with a rapidly moving part of the 110 wheel.

When desired a series of the brakes 8 may

be placed, through some of which the wheels may pass under pressure, and thus gradually be brought to a stand. The tracks 9 being on an incline any car may be released from position in one brake and allowed to run down farther by gravity and be stopped again at another point, by another brake.

In Fig. 6 is shown a slightly modified means of operating the actuator rod 18 which may be similar to any of the usual operating means for switches, but preferably means are provided so that the brake bar is locked in any position in which it is placed. As here shown the bar 26 has a rack 27 which is engaged by a worm wheel 28 to reciprocate it, and this gear may be turned by a sprocket and chain 29 from the wheel 30 in the central tower. Otherwise simple levers may be used and by this means the operator may feel the effort of the first wheels of the truck in the brake and may regulate the pressure at will.

The various advantages of these devices will readily occur to those familiar with the art.

Having thus described my invention and illustrated its use, what I claim as new and desire to secure by Letters Patent, is the following:

1. The combination with a railway track of sliding brake-bars located near the rails to engage car wheels thereon, and means to move and lock the bar in place, said means being operated from a distance, substantially as described.

2. In a railway track brake the combination with a pair of sliding brake bars adapted to engage car wheels on the track, of a pair of supplementary sliding bars attached to the first bars by springs, and means to move the supplementary bars and vary the pressure on said springs operated from a distant observation point.

3. A track brake comprising a pair of presser bars mounted to slide upon the ties,

supplemental bars connected thereto, lever-operated means for moving the supplemental bars, and locking means to fix the latter in any position, substantially as described.

4. The combination with a railway track, of a presser bar operable upon car wheels on the track, actuating links and a thrust rod to move said pressure bar, and a fixed reversible motor having a revolving member threaded on said thrust rod, whereby the presser bar may be moved by electric connections from a distance and be locked in place.

5. The combination with a brake bar, of an actuating bar attached thereto, and means to reciprocate the actuating bar and lock it in any position as placed, substantially as described.

6. The combination with a series of inclined railway switches, of sets of track brakes on the switches and electric means to operate and lock all the switches from a distant central station, substantially as described.

7. The combination with a series of inclined railway switches, of track brakes on the several switches, a central station and means operating from the central station to close and lock any or all of the brakes from a distance.

8. The combination with an inclined yard having a series of branch tracks, of a plurality of track brakes on each of the several branches and means to operate all the brakes from a central operating tower, substantially as described.

9. The combination with a track brake of electric means to operate it and lock it in closed position.

In witness whereof I have hereunder signed my name in the presence of the two subscribed witnesses.

JOHN BAIRD ATWOOD.

Witnesses:

CHAS. S. LEPLEY,
F. W. H. CLAY.