J. M. WALDRON.

RAILWAY TRAFFIC CONTROLLING APPARATUS.

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1,154,742. Patented Sept. 28, 1915.

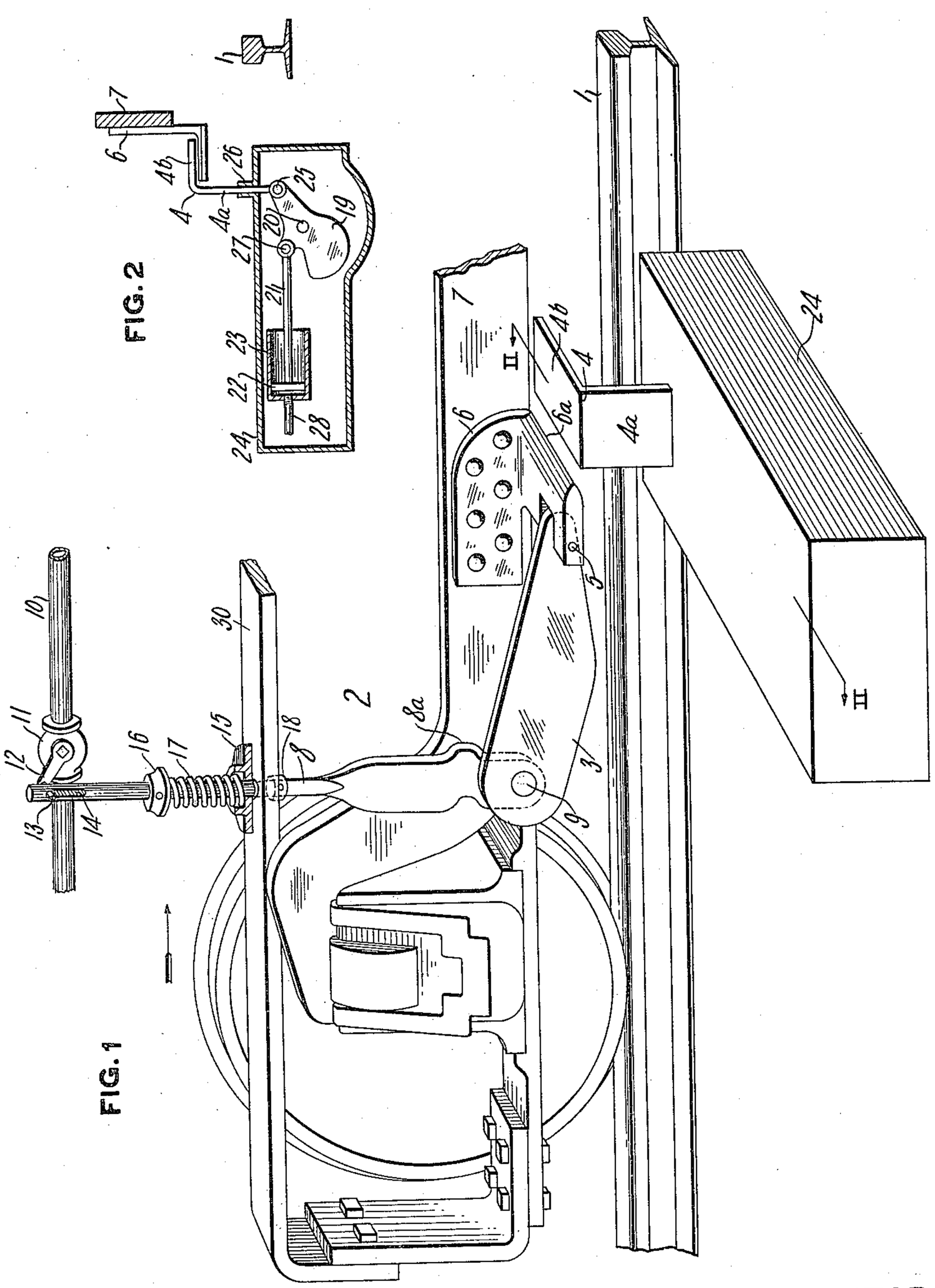

FIG. 1

FIG. 2

WITNESSES

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RAILWAY-TRAFFIC-CONTROLLING APPARATUS.

1,154,742. Specification of Letters Patent. Patented Sept. 28, 1915.

Application filed November 4, 1913. Serial No. 799,146.

To all whom it may concern:

Be it known that I, JAMES M. WALDRON, a citizen of the United States, residing at Englewood, in the county of Berger and State of New Jersey, have invented certain new and useful Improvements in Railway-Traffic-Controlling Apparatus, of which the following is a specification.

My invention relates to apparatus for controlling cars or trains or for giving a signal aboard a car or train.

I will describe one form of apparatus embodying my invention, and will then point out the novel features thereof in claims.

In the accompanying drawings, Figure 1 is a view showing in perspective one form of apparatus embodying my invention. Fig. 2 is a sectional view on the line II—II of Fig. 1.

Similar reference characters refer to similar parts in each of the views.

Referring first to Fig. 1, the reference character 1 designates a track rail of a railway track on which a vehicle 2 is adapted to travel. The usual direction of movement of this vehicle is as indicated by the arrow. Mounted on the vehicle 2 is a member 3 which is adapted to be moved downwardly; as here shown this member is an arm pivotally mounted on a pin 5, which pin is supported in a plate 6 bolted to a girder 7 on the vehicle 2. The means by which the arm 3 is moved downwardly will be described hereinafter. Operatively connected with the arm 3 by means of a pin 9 is a rod 8 which is adapted, when pulled downwardly, to operate any desired means on the vehicle. As here shown, the means which is operated by the rod 8 is a valve 11 in the train pipe 10, which valve when opened will cause an application of the fluid pressure brakes in a usual and wellknown manner. The valve 11 is operated by a handle 12 provided with a pin 13 which passes through a slot 14 in the rod 8. When the rod 8 is in the position shown, which I will hereinafter term the "normal" position, and the valve 11 is closed, the pin 13 is in engagement with the upper end of slot 14 as shown in the drawing. When the rod 8 is drawn downwardly it opens valve 11 by drawing the handle 12 downwardly, and when the rod 8 then returns to its normal position the slot 14 permits valve 11 to remain open. The valve must then be closed by hand in order to release the brakes.

The rod 8 and arm 3 are biased to the position shown, that is, to their normal position, by any suitable means. As here shown, this means comprises a spring 17 one end of which abuts against a collar 16 fixed to the rod 8 and the other end of which abuts against a lug 15 fixed to a girder 30. This spring 17 is under compression so that the rod is biased to the normal position. The upward movement of the rod is limited by the engagement of a collar 18 fixed on the rod with the under side of the girder 30. The arm 3 extends rearwardly from its pivotal point 5, and when in the normal position the upper surface of this arm is inclined upwardly from the horizontal, its lowest point being at the pivoted end. The arm 3 may be swung downwardly around its pivot 5 by means which I will now explain.

Located in the trackway is a trip 4 in the form of a hook having a vertical member 4^a and a horizontal member 4^b. This trip may be moved to operative and inoperative positions by means hereinafter explained. The trip is so arranged that when in the operative position (the position shown in Fig. 1) the under surface of the horizontal portion 4^b will engage the upper surface of arm 3 and will swing this arm downwardly, thereby causing valve 11 to be opened. An offset 8^a is provided in rod 8 so that this rod may pass the horizontal portion 4^b of trip 4.

I will now explain the means whereby the trip 4 may be moved into and out of operative position. Referring to Fig. 2, the trip 4 is pivotally mounted, by means of a pin 25, on a counterweight 19 which latter is free to oscillate on trunnions 20. These trunnions are supported in a suitable inclosing box 24. The counterweight 19 is so constructed that the preponderance of weight is on the opposite side of the trunnions 20 from the pivotal point 25 of trip 4, so that when no other force is acting on the counterweight the trip 4 is held in its highest or operative position, which is the position in which it is shown in the drawing. The trip 4 is guided by a hole 26 in box 24 through which it passes. When the counterweight 19 is oscillated in clockwise direction as viewed in Fig. 2, it will draw the trip 4 downwardly out of position for engagement

with the arm 3. This oscillation of counterweight 19 may be effected in any desired manner. As here shown, I provide a cylinder 23 in which a piston 22 is adapted to oscillate. The piston 22 is connected with the counterweight 19 by a piston rod 21 pinned to the counterweight at point 27. Fluid pressure may be supplied to the cylinder by a pipe 28. When fluid pressure is thus supplied to the cylinder it forces piston 22 outwardly thereby swinging the counterweight in such direction as to draw trip 4 downward to its inoperative position. The supply of fluid pressure to the cylinder 23 may be controlled in any desired manner.

From the foregoing it will be seen that the valve 11 can be operated by an arm 3 only when this arm is swung downwardly around its pivotal point. This movement of the arm is not likely to be accomplished by any obstruction in the trackway such as snow, ice, or lumps of coal, so that in an apparatus embodying my invention, the brakes or signaling devices on the vehicle are not likely to be operated by any means other than a special trip designed for the purpose. If desirable, the arm 3 may be still further protected from operation by foreign obstructions by the provision of an edge 6^a on the plate 6 adapted to cut any obstruction which might tend to swing the arm downwardly.

Although I have herein shown and described only one form of apparatus embodying my invention, it is understood that various changes and modifications may be made therein within the scope of the appended claims without departing from the spirit and scope of my invention.

Having thus described my invention, what I claim is:

1. In combination, a railway track, a vehicle adapted to travel thereon, an arm pivotally mounted on the vehicle the upper surface of which arm normally slopes upwardy from the horizontal in the direction opposite to the usual direction of movement of the vehicle, means on the vehicle operated by said arm when swung downwardly from such normal position, and a trip located in the trackway and adapted to co-act with said upper surface of the arm to swing the arm downwardly.

2. In combination, a railway track, a vehicle adapted to travel thereon, an arm pivotally mounted on the vehicle the upper surface of which arm normally slopes upwardly from the horizontal in the direction opposite to the usual direction of movement of the vehicle, means on the vehicle operated by said arm when swung downwardly from such normal position, and a hook-shaped trip located in the trackway the under surface of the hook being adapted to engage the said upper surface of the arm to swing the arm downwardly.

3. In combination, a railway track, a vehicle adapted to travel thereon, an arm pivotally mounted on the vehicle and extending rearwardly from the pivotal point, means on the vehicle operated by said arm when swung downwardly, and means located in the trackway for swinging said arm downwardly.

4. In combination, a railway track, a vehicle adapted to travel thereon, an arm pivotally mounted on the vehicle and extending rearwardly from the pivotal point, means on the vehicle operated by said arm when swung downwardly, means located in the trackway for swinging said arm downwardly, and a member on the vehicle located in front of the pivotal point of the arm and having an edge adapted to cut snow and ice.

5. In combination, a railway track, a vehicle adapted to travel thereon, a member on the vehicle adapted to be moved downwardly, means on the vehicle controlled by said downward movement of the member, means located in the trackway for moving said member downwardly, and a second member on the vehicle located in front of said first member and having an edge adapted to cut obstructions on the trackway.

6. In combination, a member on a railway vehicle adapted to be moved downwardly, and a member located in the trackway and having an under surface adapted to engage an upper surface of the said vehicle-carried member, the engaging surface of one of said members being sloped from the horizontal so that as the vehicle proceeds along the track the vehicle-carried member is drawn downwardly by the trackway member, and means on the vehicle controlled by the said vehicle-carried member.

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

JAMES M. WALDRON.

Witnesses:
J. C. NORRIS,
K. F. BAUDY.