

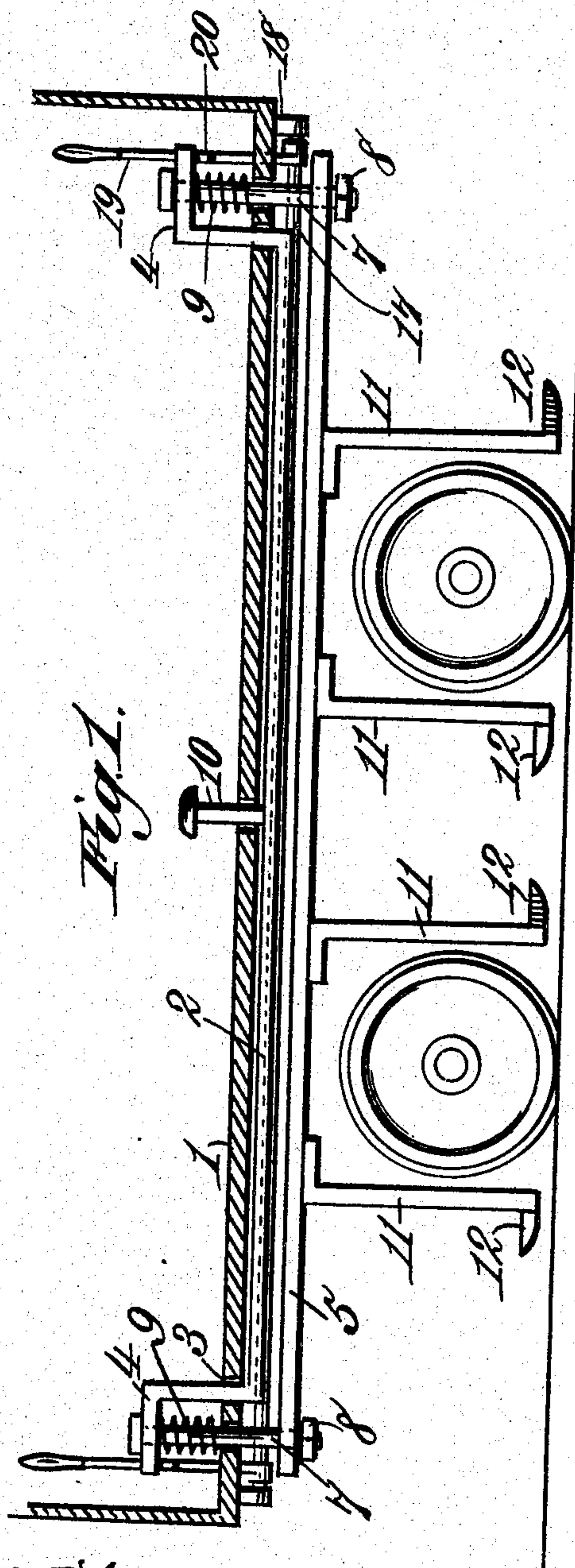
No. 806,567.

PATENTED DEC. 5, 1905.

J. I. PITTMAN & E. HARRISON.
SWITCH OPERATING APPARATUS.

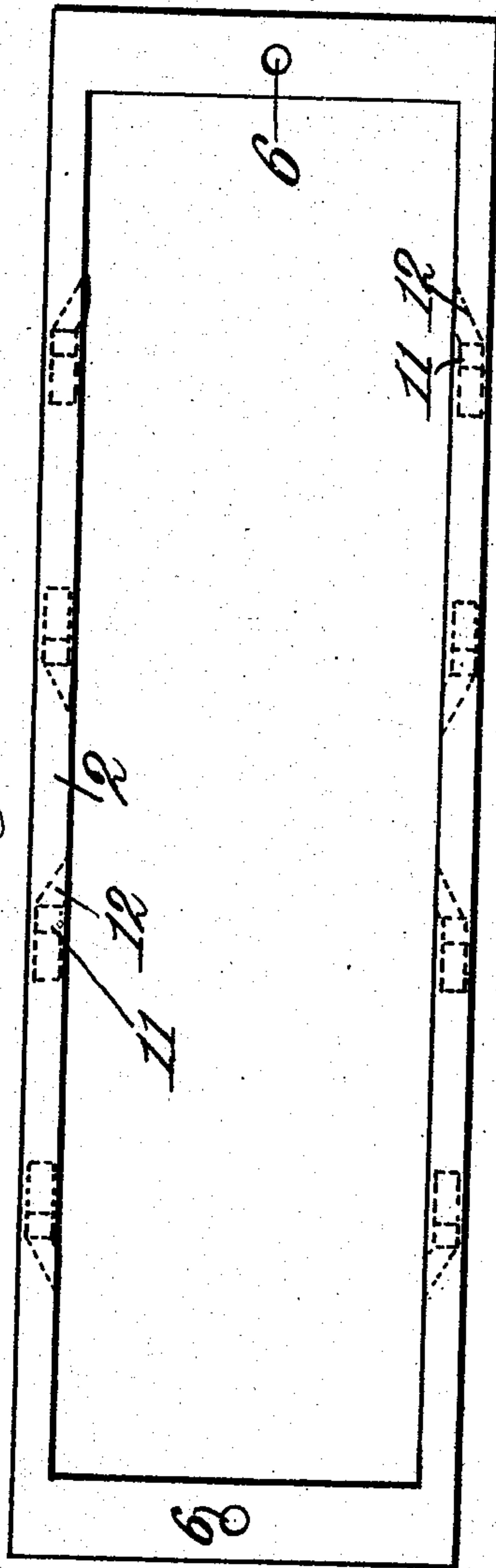
APPLICATION FILED MAY 6, 1905.

2 SHEETS—SHEET 1.



Witnesses.
Robert Swett,
James L. Norris, Jr.

Fig. 2.



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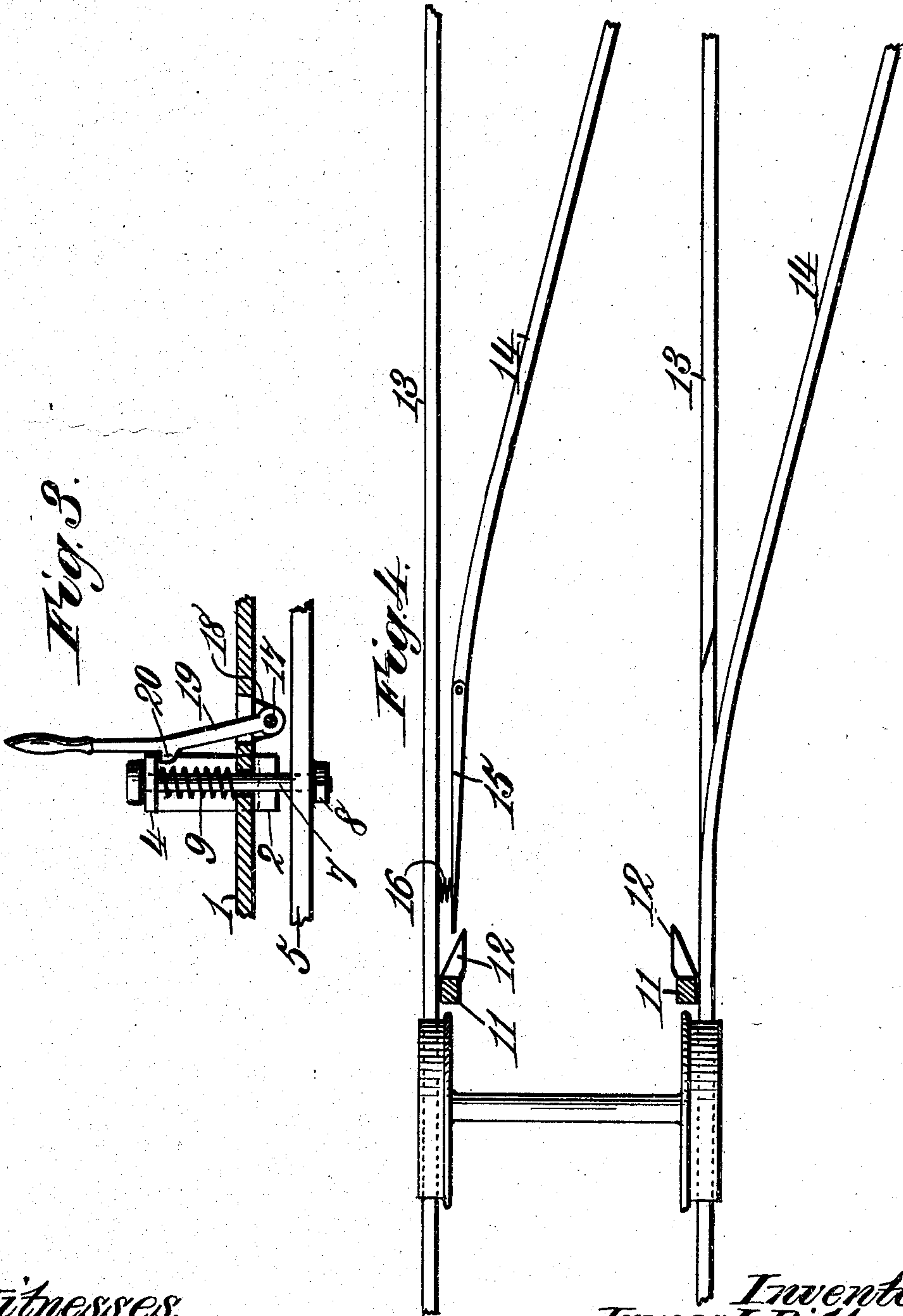
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2 SHEETS—SHEET 2.



Witnesses:
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UNITED STATES PATENT OFFICE.

JAMES I. PITTMAN AND ELIZABETH HARRISON, OF VALDOSTA, GEORGIA.

SWITCH-OPERATING APPARATUS.

No. 806,567.

Specification of Letters Patent.

Patented Dec. 5, 1905.

Application filed May 6, 1905. Serial No. 259,202.

To all whom it may concern:

Be it known that we, JAMES I. PITTMAN and ELIZABETH HARRISON, citizens of the United States, residing at Valdosta, in the county of Lowndes and State of Georgia, have invented new and useful Improvements in Switch-Operating Apparatus, of which the following is a specification.

Our invention relates to certain new and useful improvements in switch-operating apparatus, and has for its object to provide mechanism carried by the car and operable at pleasure by the motorman or conductor to cause the switch to be set in the desired position from the moving car, thereby to obviate the necessity of the conductor or motorman having to leave the car for this purpose or of providing an attendant at the switching-station to operate the switch.

With the above object in view the invention resides in the novel construction and combination of parts hereinafter described, and particularly pointed out in the claims.

In order that our invention may be clearly understood, we have illustrated the same in the accompanying drawings, in which—

Figure 1 is a sectional elevation of a car having our improvements applied thereto. Fig. 2 is a bottom plan view of a frame carried by the car. Fig. 3 is a broken sectional end view showing the latch for holding the operating-bar, and Fig. 4 is a plan view showing the arrangement of the switch-rails and the manner in which the switch-point is moved from the car.

Referring now to the drawings, 1 indicates the bottom of the car, extending centrally beneath which and longitudinally of the car is an operating-bar 2, which near opposite ends of the car projects upward through suitable apertures formed in the bottom of the car, as indicated at 3, and has its outer end portions bent to extend parallel with the floor of the car, as indicated at 4.

5 indicates a frame rectangular in shape, (shown in detail in Fig. 2,) which frame is provided at opposite ends with central apertures 6.

7 indicates headed pins which extend through the ends 4 of the operating-rods 2, through suitable apertures in the floor of the car, and through the apertures 6 in the frame 5, and support said frame by means of nuts 8, screwed on their outer ends. A coil-spring 9 is interposed between the floor of the car and the projecting end 4 of the operating-bar

2 at each end of the car, said springs serving to normally hold the frame upward substantially against the bottom of the car. Secured centrally to the operating-bar 2 is a headed pin 10, which projects upward through the floor of the car a suitable distance, this pin being used for depressing the operating-bar from the interior of the car. Secured to and depending from the frame 5 are legs 11, located, respectively, at the front and rear of each of the four wheels of the car and carrying at their lower ends foot-pieces 12, said foot-pieces being directed inwardly or toward the longitudinal center of the car, as shown.

13 indicates the rails of the main track, and 14 the rails of the curve or switch, one of the rails 14 having pivotally mounted at its end a switch-point 15, which is normally held away from an adjacent main rail 13 by means of a spring 16. At the point of junction of the main rail and switch-rail 14, on the side of the track opposite to that at which the switch-point 15 is located, we dispense with the ordinary switch-point and simply cut away the rail 13, so that the wheel may either take the curved rail 14 or continue on the straight rail 13, according as the switch-point 15 is operated to switch the car or not.

In operation as the car approaches the switch the pin 10 will be stepped upon by the motorman, who passes to the interior of the car for this purpose, and upon being depressed will press down the coil-springs 9 and allow the frame 5 to fall. In the further progress of the car the appropriate foot-piece 12 will strike the switch-point 15 and cause it to be pressed firmly against the rail 13, so that the wheels of the car will pass onto the switch-point and the car will be caused to take the switch. As soon as the wheel passes off the switch-point the spring 16 will throw the same away from the rail 13, and it is therefore necessary to provide arms 11 and foot-pieces 12 for the front and rear wheels, so that after the front wheel has passed off of the switch-point the latter may again be operated to cause the rear wheel to pass onto the same. By providing arms 11 and foot-pieces 12 on both sides of the car we provide for operating the switch-points from the car when the latter is traveling in either direction and also for operating switch-points located on either side of the track. If the car has a conductor as well as a motorman, the conductor will press upon one of the pins 7, while at the same time the motorman will press upon the other pin 7 and

the frame 5 be lowered accordingly. In some sections of the country, however, where traffic is not heavy it is common to have only a motorman on the car, and for this reason we provide the central pin 10, so that the operating-bar 2 may be depressed by pressure thereon. In order to prevent this pin 10 being accidentally or improperly depressed, we provide a locking device consisting of a rock-shaft 17, extending substantially from end to end of the car and journaled at opposite ends in bearings 18, and secure to said rock-shaft lever-arms 19, each of which has a lug 20, which engages beneath the bent end 4 of the operating-bar. Before said operating-bar can be depressed it is necessary to throw one or the other of the lever-arms 19 to one side, which operation will carry the lug 20 from beneath the part 4 of the operating-bar and permit the same to be depressed.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. Switch-operating apparatus comprising, in combination with a car, a depressible frame located beneath the car and extending substantially from end to end and side to side thereof, legs depending from each side of said frame, said legs being, respectively, disposed in front of and behind each wheel, and foot-pieces mounted on the lower end of each of said legs for actuating a switch-point.

2. Switch-operating apparatus comprising, in combination with a car, a depressible frame located beneath the car and extending substantially from end to end thereof, springs located at each end of the car and tending normally to hold the frame in an elevated position, means for locking said frame in its elevated position, and means carried by the frame for operating a switch.

3. Switch-operating apparatus comprising, in combination with a car, a depressible frame located beneath the car and extending substantially from end to end thereof, an actuating-bar extending beneath the car and having end portions projecting upward through and above the car-floor, springs interposed between said projecting end portions and the floor of the car, push-pins passing through said projecting end portions and the floor of

the car and supporting said frame, and means carried by the frame for actuating a switch.

4. Switch-operating apparatus comprising, in combination with a car, a frame located beneath the same and extending substantially from end to end thereof, an operating-bar located beneath the car and projecting through and above the car-floor at each end of the car, springs interposed between said projecting end portions and the floor of the car, push-pins passing through said projecting portions and the floor of the car and supporting said frame, a central push-pin secured to said operating-bar and projecting upward through the floor of the car, and means carried by the frame for operating a switch.

5. Switch-operating apparatus comprising, in combination with a car, a frame located beneath the same and extending substantially from end to end thereof, an operating-bar located beneath the car and projecting through and above the floor of the car at each end of the car, springs interposed between said projecting end portions and the floor of the car, push-pins passing through said projecting end portions and the floor of the car and supporting said frame, a rock-shaft extending substantially from end to end of the car and mounted at its opposite ends in bearings, levers secured to said rock-shaft and provided with lugs normally engaging under said projecting end portions to lock the operating-bar against depression, and means carried by the frame for operating the switch.

6. Switch-operating apparatus comprising, in combination with a pivotally-mounted switch-point normally held from the main track by means of a spring, a car, a depressible frame carried by said car, and switch-point-engaging members carried by said frame and located, respectively, in front of and behind each of the wheels of the car, substantially as described.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

JAMES I. PITTMAN.
ELIZABETH HARRISON.

Witnesses:

CAMILLA STEVENS,
VIVIAN STEVENS.