S. A. JOHNSON.

AUTOMATIC SWITCH THROWING, TRACK SANDING, AND SWEEPING DEVICE.

APPLICATION FILED MAY 1, 1909.

943,938.

Patented Dec. 21, 1909.

2 SHEETS—SHEET 1.

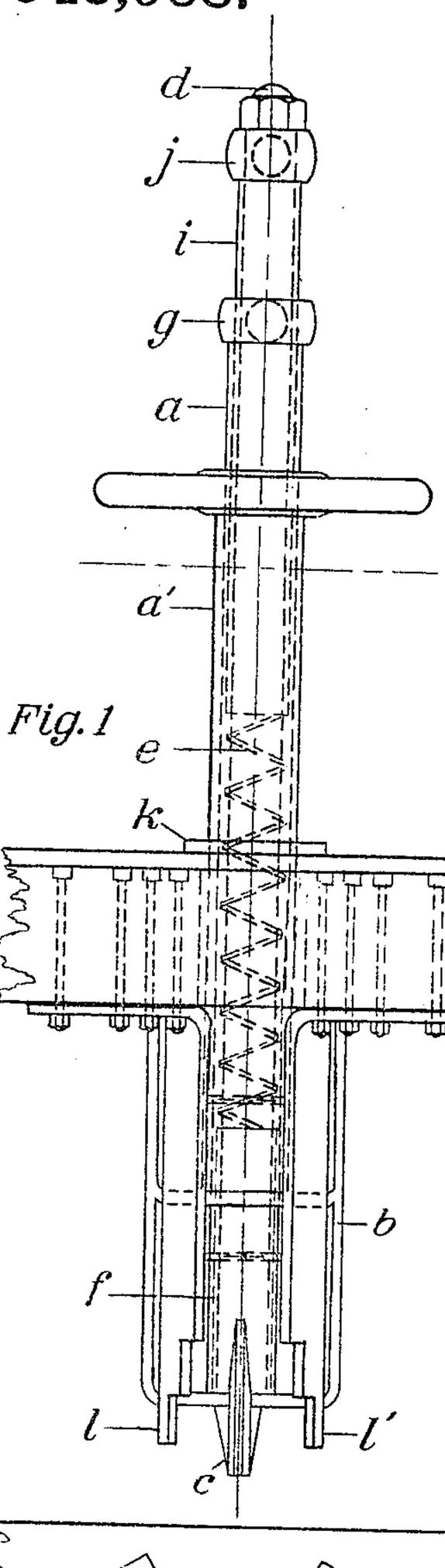

Fig. 1

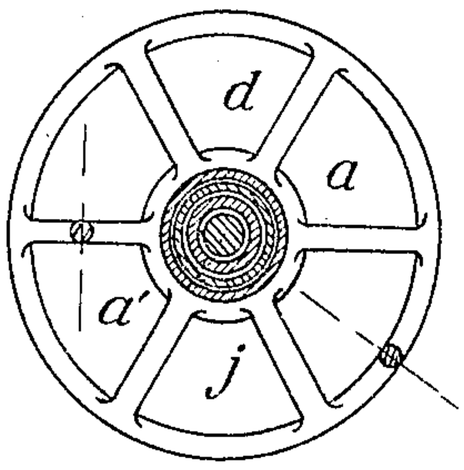

Fig. 2

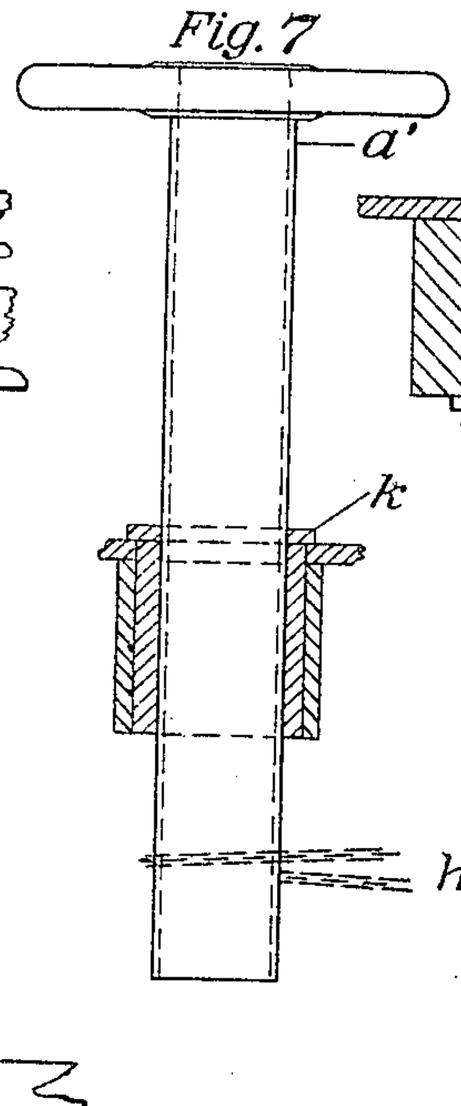

Fig. 7

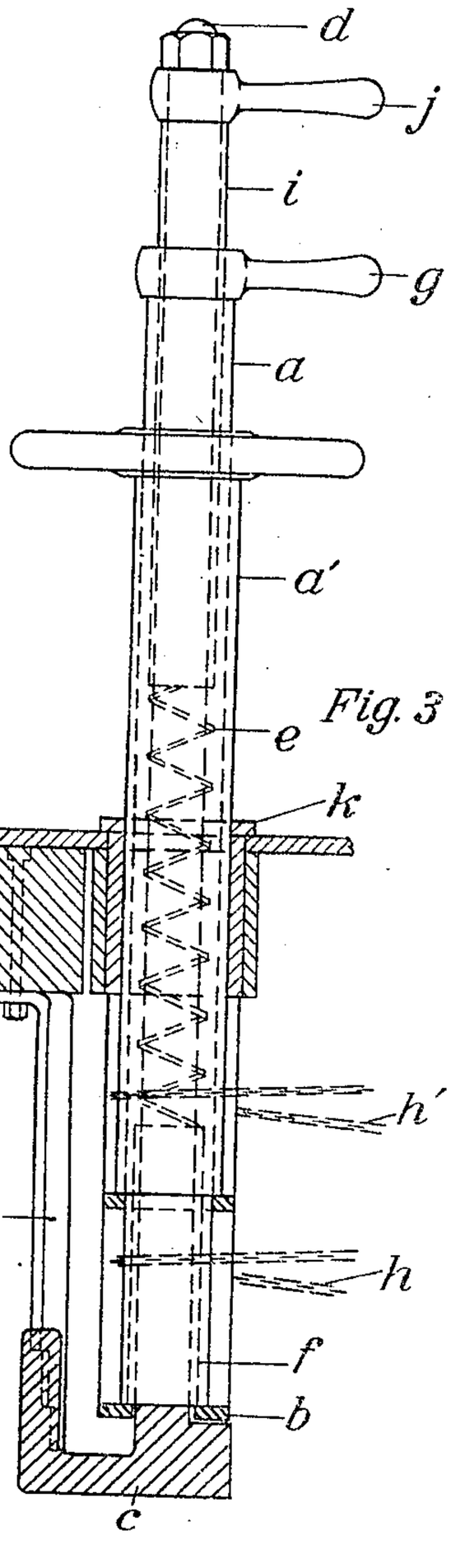

Fig. 3

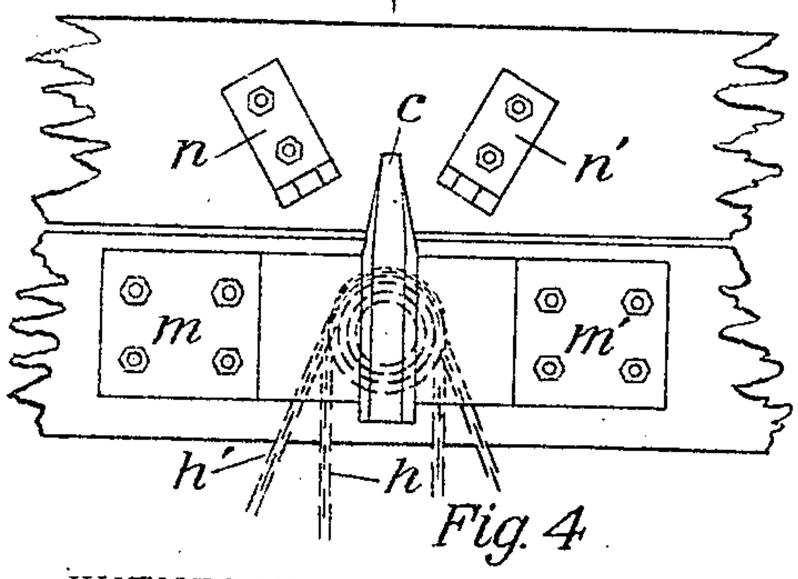

Fig. 4

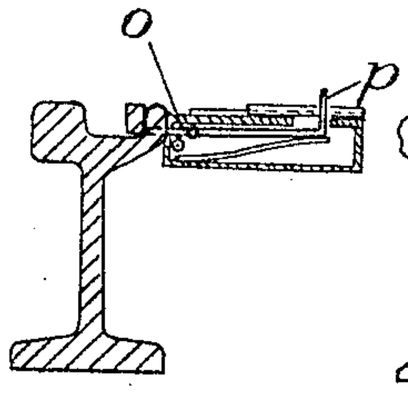

Fig. 5

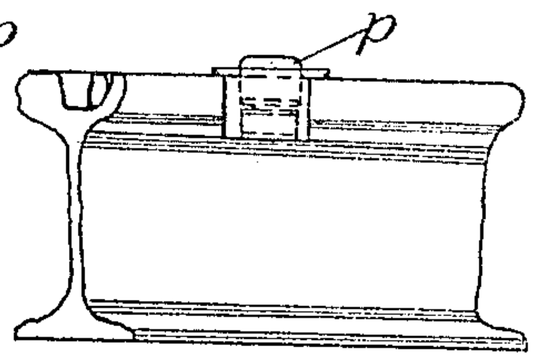

Fig. 6

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AUTOMATIC SWITCH THROWING, TRACK SANDING, AND SWEEPING DEVICE.

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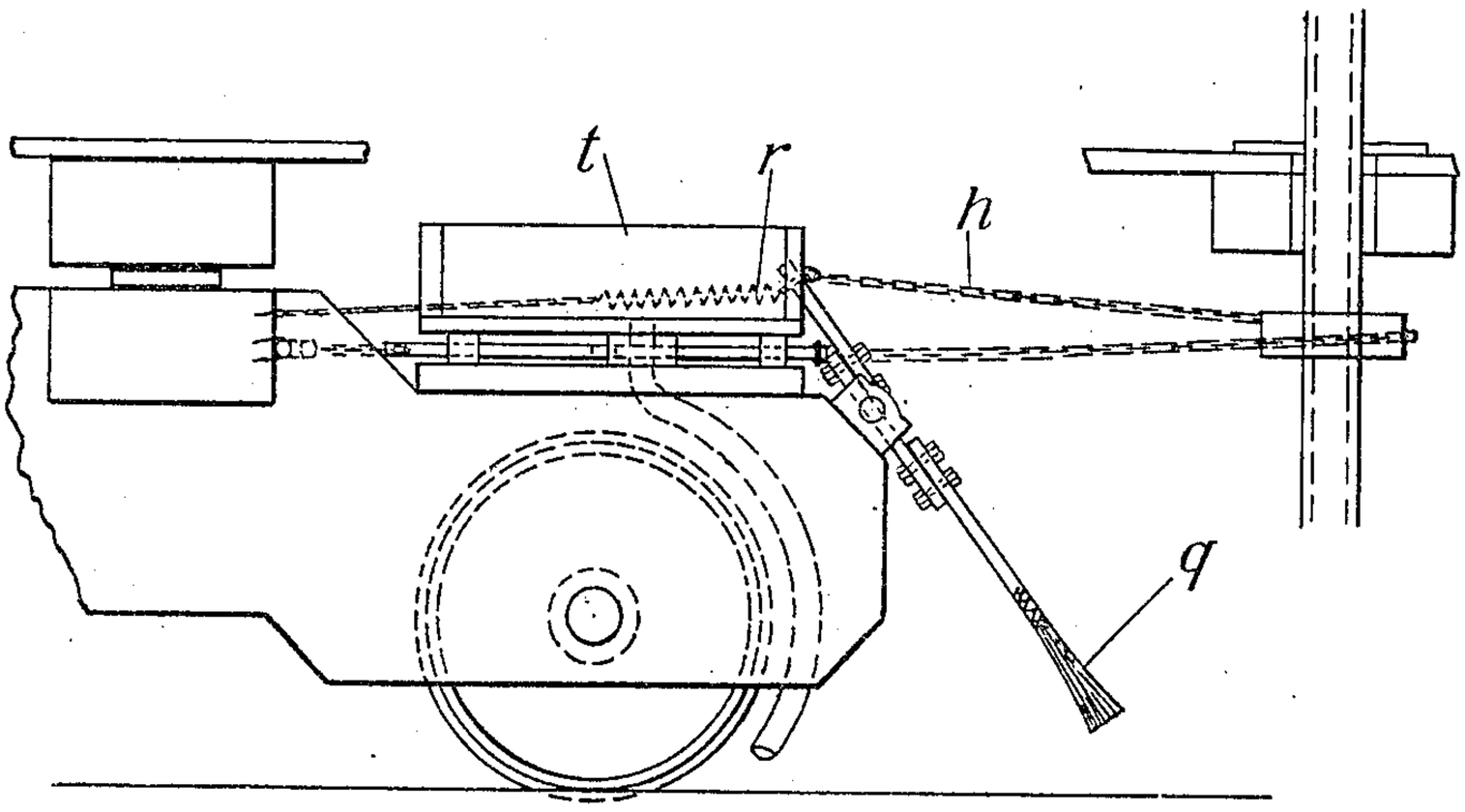

Fig. 8

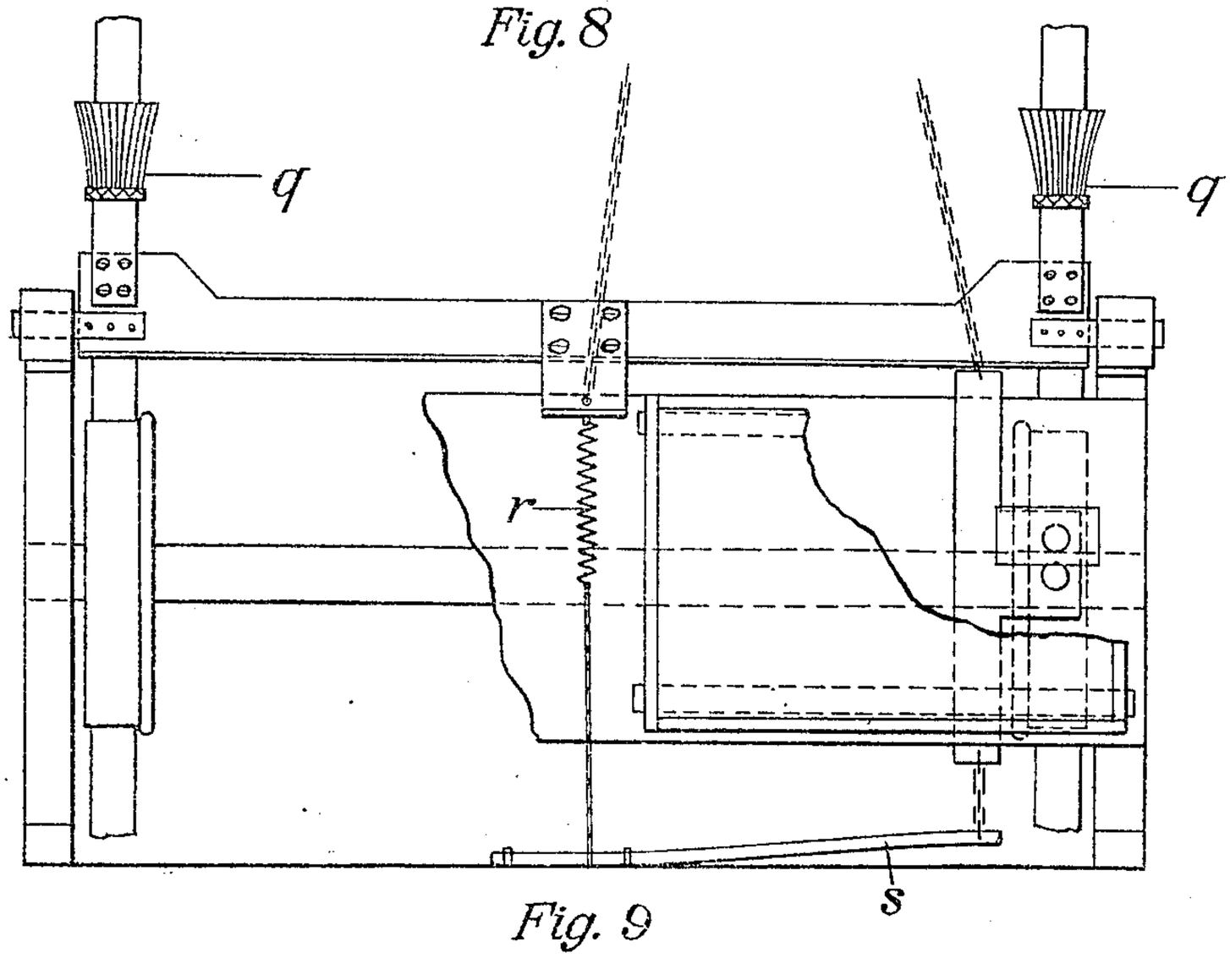

Fig. 9

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UNITED STATES PATENT OFFICE.

SQUIRE A. JOHNSON, OF GROGAN, OHIO, ASSIGNOR TO THE JOHNSON-ADAMS SWITCH DEVICE COMPANY, OF COLUMBUS, OHIO.

AUTOMATIC SWITCH-THROWING, TRACK SANDING, AND SWEEPING DEVICE.

943,938. Specification of Letters Patent. Patented Dec. 21, 1909.

Application filed May 1, 1909. Serial No. 493,422.

To all whom it may concern:

Be it known that I, SQUIRE A. JOHNSON, a citizen of the United States, residing at Grogan, in the county of Franklin, State of Ohio, have invented a new and useful Improvement in Automatic Switch-Throwing, Track Sanding and Sweeping Devices, a description of which follows.

The improvement is intended to make possible the operation of the switch throwing, track sanding and sweeping device from the brake shaft, the whole operating as one complete, connected mechanism.

In the accompanying drawings, Figure 1 represents a front view of the invention; Fig. 2 shows the brake wheel and a cross section at the point indicated by broken line Fig. 1; Fig. 3 represents a lateral view; Fig. 4 gives view from beneath looking up; Fig. 5 is an end view of the switch attachment and an outline of the box inclosing same; Fig. 6 is a lateral view of the switch attachment; Fig. 7 shows the brake wheel and shaft detached from the rest of the device; Fig. 8 shows the broom and sand box and the springs governing their action; Fig. 9 is a view from above the trucks looking down at the brooms and sand box.

In the drawings, a' is a hollow shaft, to whose upper extremity the brake wheel is attached, supported by the upper bar of a double stirrup b, and by the ratcheted collar k, on the car floor, which controls the brake.

a is an inner shaft supported by the lower bar of stirrup b.

c is a foot piece attached to a rod passing through the hollow shaft a, the upper end of which is seen at d.

e is a coiled spring inside the shaft a, supported by a hollow pipe f, swaged in the lower end of shaft a.

g is a handle or lever attached by a key or set screw to the shaft a.

h is a chain fastened at its center to the shaft a, one end of which attaches to a spring-governed bar operating the brooms; the other end attaches to a spring-governed slide in the sand box.

i is a hollow bar resting on the coiled spring e and extending to the top of the rod d, to which it is attached by means of a handle or lever j, which operates the foot piece c.

k is a ratcheted collar around the shaft a', where it passes through the floor of the car.

l and l' are notched posts on which the foot piece catches when set to throw a switch.

m and m' show the attachment of the stirrup b to the joists of the car.

n and n' show the manner of the attachment of the posts l and l' to the joists of the car.

o is a bar attached to the switch point and extending between the rails to the depressible post p, which is operated by the foot piece c.

h' is the chain operating the brake and attached to the shaft a' by a set screw.

q—q are the brooms attached by means of a bar and hinges to the car truck, and normally held in the position as shown in Fig. 8 by means of a spring r.

s is the spring controlling the slide in the sand box t.

The brake shaft is made hollow and passing through the car floor rests on the upper bar of a double stirrup, fastened to the car joist. Within this shaft is a second hollow shaft, resting on the lower bar of the stirrup. A post passing down through this shaft and stirrup has, at its lower end, a foot piece, the forward end of which bends upward, forming a sort of hook. This post and foot piece are supported by a coiled spring between two hollow pipes inside the shaft, the lower one of which is swaged inside the shaft, and the upper one of which is attached at its top by means of a handle and set screw to the post; this handle operates the switch throwing device. By pressing down on the handle and turning to one side, the foot piece catches on a notched post, fastened to the bottom of the car for the purpose, and is held in place by the lifting of the spring until released by the post at the inner end of the switch bar after the switch has been thrown. To the switch point is attached a bar within a box extending to a point between the rails that is exactly beneath the center of the shaft on the car. The inner end of this switch bar is surmounted by a post normally extending above the surface of the rails, but capable of being depressed to the level of the surface and immediately returning to normal when pressure has been removed. If it is desired to go to the right, the handle is pressed down and pulled to the left; this points the foot piece to the right, where it catches on and is held in position

by the notched post, and the front end of it passes to the right of the post on switch bar. As the car advances it comes in contact with the post and pushes it to the left, thus pulling the switch point over and opening the track to the right. As the car passes on, the heel of the foot piece comes in contact with the post on switch bar and, as it can be pushed no farther, is itself pushed to the right, thus liberating the foot piece, which immediately arises to its original position and is ready to be used again. Reversing this operation turns the car to the left or keeps it on the main track, as desired.

Two brooms, suspended on hinges attached to the truck over the rails and connected by a bar, are held away from the rails by a spring. Another spring holds in place a slide, covering the orifice in a sand box placed on the frame work of the truck immediately in front of one wheel. A small handle, attached by a key or set screw to the shaft, operates the brooms and sand box by means of a chain fastened at its center to the shaft and at one end to the slide in the sand box, at the other to a bar controlling the hinges, to which the brooms are attached. Turning the handle one way opens the sand box and sands the track; turning it the other way lowers the brooms and sweeps the track; leaving it at rest, both are inoperative.

Brake is operated in the usual way.

I claim:—

1. In a switch throwing, track sanding and sweeping device, a hollow brake shaft, inclosing and operating with the shaft of the switch throwing, track sanding and sweeping device, forming one complete device substantially as set forth.

2. In a switch throwing, track sanding and sweeping device, operating within a hollow brake shaft, two brooms, operated from the same shaft substantially as described.

3. In a switch throwing, track sanding and sweeping device, operating within a hollow brake shaft, and having two brooms operated from the same shaft, a sand box resting on the car truck and also operated from the same shaft substantially as shown.

4. In a switch throwing, track sanding and sweeping device, operating within a hollow brake shaft, and having two brooms and a sand box operated from the same shaft, a box between the rails containing an arm attached to the switch point and a depressible post, which is operated by the foot piece on the car, substantially as set forth.

SQUIRE A. JOHNSON.

Witnesses:

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A. A. HARDESTY.