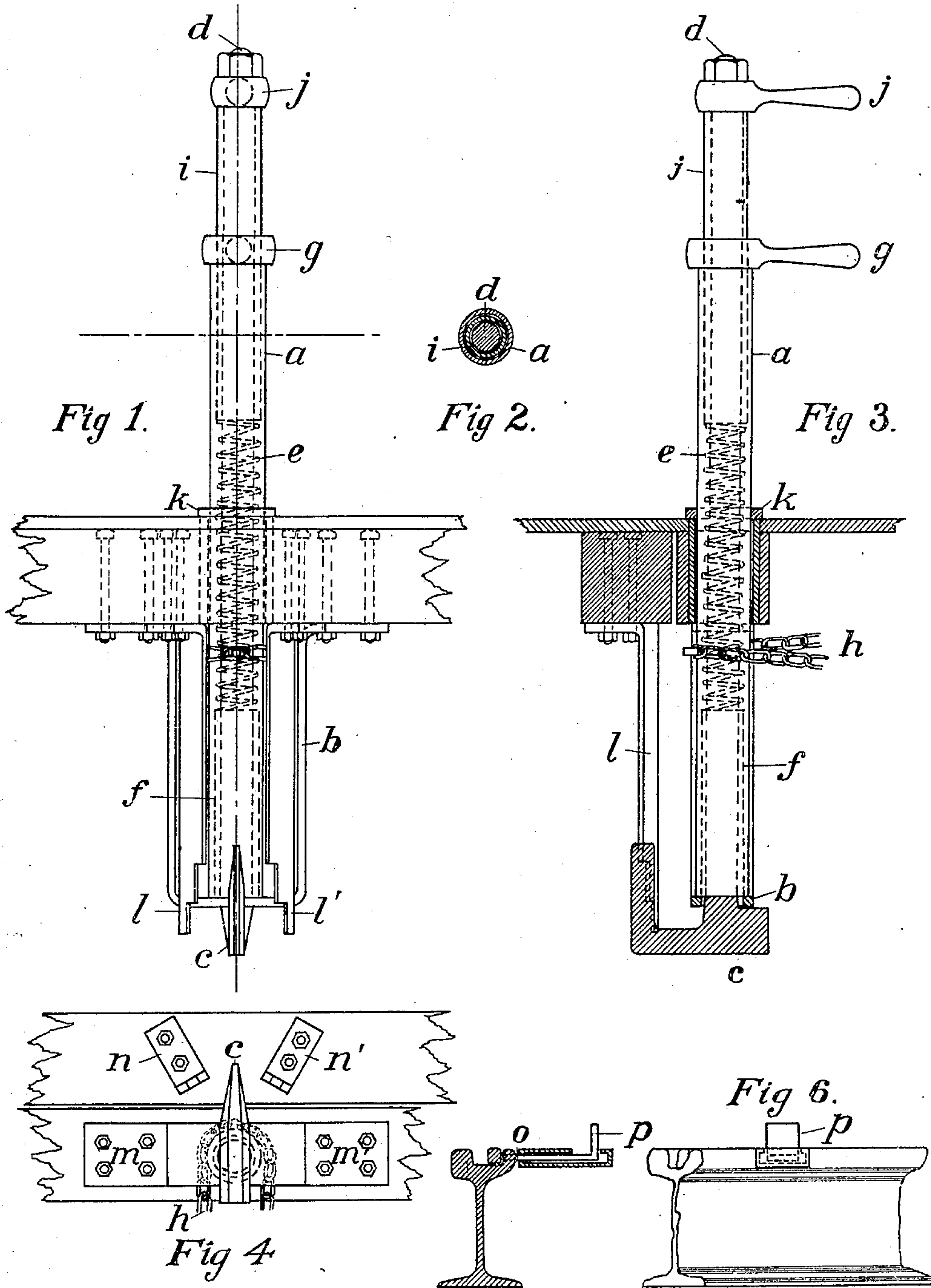


S. A. JOHNSON.
 AUTOMATIC SWITCH THROWING, TRACK SANDING, AND SWEEPING DEVICE.
 APPLICATION FILED MAR. 5, 1908.

920,066.

Patented Apr. 27, 1909.



WITNESSES:

Garnie L. Adland
 & A. Thomas

Fig 5.

INVENTOR.

S. A. Johnson

UNITED STATES PATENT OFFICE.

SQUIRE A. JOHNSON, OF GROGAN, OHIO.

AUTOMATIC SWITCH-THROWING, TRACK SANDING AND SWEEPING DEVICE.

No. 920,066.

Specification of Letters Patent.

Patented April 27, 1909.

Application filed March 5, 1908. Serial No. 419,331.

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 and State of Ohio, have invented a new and useful Automatic Switch-Throwing, Track Sanding and Sweeping Device, a description of which follows.

The invention is intended to throw switches, enabling cars to run in any direction without loss of time, or risk of failure, at the will of the motorman or engineer; also to sweep and sand the track when desired, preventing useless waste of power and wear of machinery and providing safety and comfort to the passengers.

The entire device is operated by two levers attached to a single controlling shaft.

In the accompanying drawing Figure 1 represents a front view of the invention; Fig. 2 shows a cross section at point indicated; Fig. 3 represents a lateral view; Fig. 4 gives view from directly beneath looking up; Fig. 5 represents an end view of the switch attachment; Fig. 6 is a lateral view of same.

In the drawings, *a* is a hollow shaft supported by a stirrup *b*.

c is a foot piece attached to a rod passing through the hollow shaft *a* seen at *d*.

e is a coiled spring inside the shaft *a*, supported by a hollow pipe *f*, which in turn rests on the stirrup *b*.

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 the handle or lever *j*, which operates the foot piece *c*.

k is a metal collar around the shaft *a* where it passes through the car floor.

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

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

n and *n'* show 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 with the post *p* at its inner end, which is operated by the foot piece *c*.

A hollow iron shaft passes through the

floor of the car at the right of the motorman and rests on a stirrup fastened to the joists. 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 rests on the stirrup, 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 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 and the front end of it passes to the right of the post on switch bar. As the car advances, the foot piece 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 rises 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 tracks; turning it the other way lowers the brooms and sweeps the tracks; leaving it at rest, both are inoperative.

I know that a device having a curved rod with a transverse enlargement at its lower end, supported by a threaded washer and coiled spring, has been used before and I do not claim this. And I know that a device operated by a sort of tumbling shaft and two arms has been used to push a block attached to the switch point, and I do not claim this.

I do claim:—

In a device for operating switch throwing,

track sanding and sweeping device, a foot piece attached to a straight bar, supported by a coiled spring and hollow pipe resting on a stirrup beneath the car, capable of being set and held in place by one of two notched posts, suitably placed in such a manner as, acting on a depressible post at the inner end of a bar attached to the switch point, to automatically throw the switch in the direction desired; and the attachment thereto of a track sanding and sweeping device all substantially as set forth.

S. A. JOHNSON.

Witnesses:

C. A. THOMAS,

FANNIE L. ADAMS.