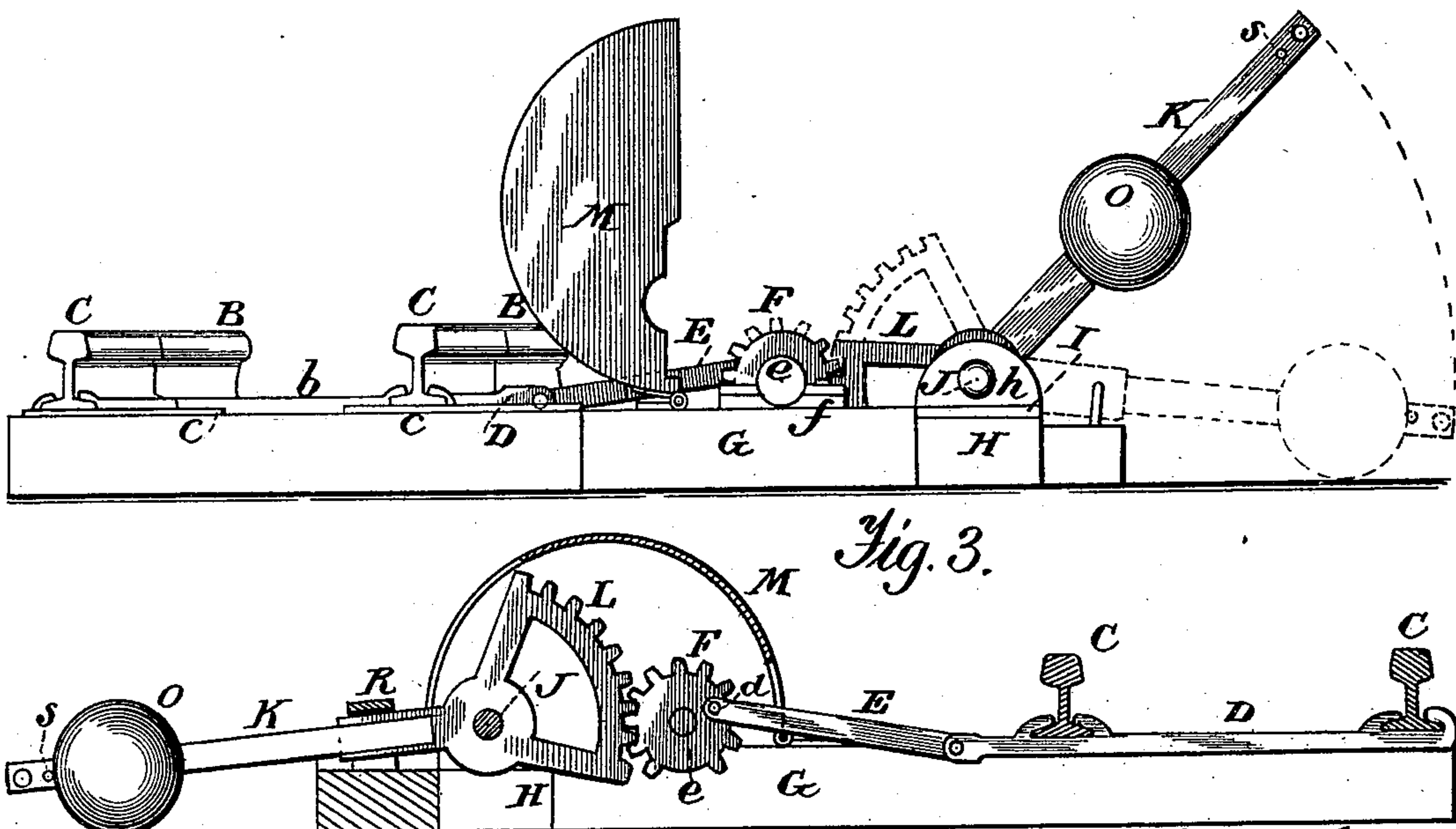
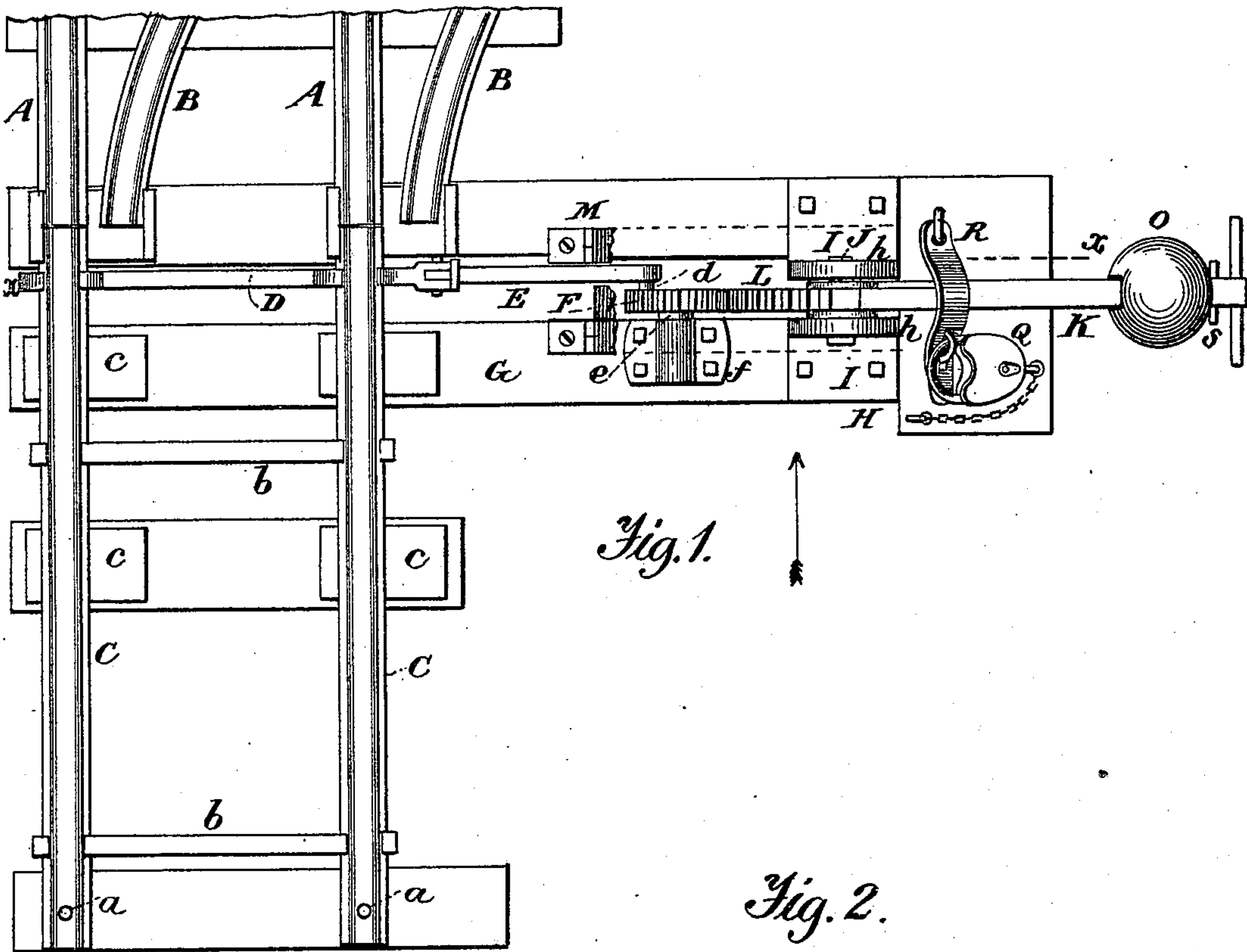


(No Model.)

G. F. GAGE.
RAILWAY SWITCH STAND.

No. 395,891.

Patented Jan. 8, 1889.



Witnesses.
A. Ruppert.
E. H. Bond.

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UNITED STATES PATENT OFFICE.

GEORGE F. GAGE, OF HUNTINGDON, PENNSYLVANIA.

RAILWAY-SWITCH STAND.

SPECIFICATION forming part of Letters Patent No. 395,891, dated January 8, 1889.

Application filed October 19, 1888. Serial No. 288,529. (No model.)

To all whom it may concern:

Be it known that I, GEORGE F. GAGE, a citizen of the United States, residing at Huntingdon, in the county of Huntingdon and State of Pennsylvania, have invented certain new and useful Improvements in Railway-Switches; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to certain new and useful improvements in railway-switches and means for operating the same; and it has for its objects to improve upon previous devices of this character to render the same more efficient in use and to insure that the switch shall always be returned to its normal position as soon as the switch-lever is released, thus avoiding the tendency to accidents so often caused by the switchman forgetting to return the switch to its normal position.

While the device hereinafter described is intended more especially for use at what are termed "flying-switches," where the switchman holds the switch-lever while the train is being switched and immediately returns it to its normal position or is supposed to do so, it may of course be used at any place on a railroad where it may be desirable to use the same.

The invention consists in the peculiar combinations and the novel construction, arrangement, and adaptation of parts, all as more fully hereinafter described, shown in the drawings, and then particularly pointed out in the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a plan view of a portion of the main-track and switch rails sufficient to illustrate my improvements. Fig. 2 is a side elevation looking in the direction of the arrow in Fig. 1. Fig. 3 is a transverse section on line *x x* of Fig. 1.

Referring now to the details of the draw-

ings by letter, A designates portions of the rails of the main track, and B those of a siding, all of which are secured to the cross-rails, and may be of the form and construction common in devices of this kind.

C C are the switch-rails having their fulcrum at *a*, and connected by the cross-braces *b* in the usual manner.

c are metal wearing-plates on the cross-rails, and on which the switch-rails move.

The arm D, connecting the ends of the switch-rails farthest from their fulcrum, extends beyond one side of one of the rails and has pivotally connected thereto one end of the arm E, which is attached to the wrist-pin *d* of the segmental pinion F, which is carried by the transverse shaft *e*, journaled in suitable bearings, *f*, secured to the extended cross-rail G, as shown.

Secured to a suitable base-plate or other suitable support, H, are the plates I, having upwardly-extending ears *h*, in which is journaled the transverse shaft J, on which is fulcrumed one end of the lever K, which carries a segmental pinion, L, which is designed to mesh with the segmental pinion, F, as shown. By operating this lever the switch-rails are moved back and forth to connect with the main or side tracks, as desired.

M is a housing for the operating parts—the segmental pinions—above described. It is pivoted to the extended cross-rail, so as to be readily thrown up, as shown in Fig. 2, when it is desired to get at said parts for repairs or other causes.

Many accidents have occurred by reason of the switchman forgetting to return the switch to its normal position after the train has been switched. To make such an almost impossibility, I loosely sleeve upon the operating-lever a weight, O, which is free to slide thereon, and as soon as the operator or switchman lets go of the lever the said weight will fall to its lowest position, as shown in dotted lines in Fig. 2. It will thus be seen that whenever the switchman leaves the switch the rails must have been returned to their normal position. The weight serves an additional function. When the lever is thrown up to throw the train onto the siding, the weight by its momentum brings the rails to their position with a sudden

jerk just at the moment when they are about to stop, thus insuring their always being brought to their farthest extent. It serves the same purpose when the parts are thrown into the other position. To lock the lever in its normal position against meddlesome persons, I provide the lock and hasp Q R, as seen in the drawings; but of course other fastenings may be employed, if desired.

10 The housing should of course be provided with a suitable slot for the passage of the operating-lever, as shown.

The free end of the lever should be provided with a suitable handle for convenience in operating the same, and near the handle I place a transverse pin, s, which serves as a stop for said weight.

While I have shown the segmental pinions as means for operating the switch-rails, I do not intend to limit myself thereto, as other means may be employed in connection with the sliding weight on the operating-lever without departing from the spirit of the invention, so far as the feature of the sliding weight is concerned.

Having thus described the preferable way of carrying out my invention, but without limiting myself to the precise means shown for operating the switch-rails, what I claim to be new with me, and desire to secure by Letters Patent, is—

1. The combination, with the main-track and the switch rails, of the operating mechanism for said switch-rails, and a weight loosely sleeved to slide on the operating-lever, substantially as and for the purpose specified.

2. The combination, with the main and

switch rails, of the operating-lever carrying at one end a pinion, a pinion connected with the switch-rails and meshing with said pinion, and a weight loosely sleeved to slide on the operating-lever, the movement of the weight being limited by a stop arranged near the free end of the lever, substantially as shown and described, and for the purpose specified.

3. The combination, with the main and switch rails, of the arm pivotally connected with the switch-rails, the segmental pinion pivoted within journals secured to one of the cross-ties and secured to said arm, the operating-lever, fulcrumed as described, the segmental pinion on said lever and meshing with the aforesaid pinion, and a weight free to slide on said lever, its movement being limited by a stop near the free end of the lever, substantially as and for the purpose specified.

4. The combination, with the main and switch rails, of the cross-arm connecting said switch-rails, the arm pivotally connected thereto, the segmental pinion pivoted within journals secured to one of the cross-ties and secured to said arm, the operating-lever, the segmental pinion thereon, the pivotal connection between said arm and the first-mentioned pinion, and a weight loosely sleeved on said lever and free to slide thereon, substantially as and for the purpose specified.

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

GEORGE F. GAGE.

Witnesses:

WM. P. ORBISON,
J. A. GREENLEAF.