

(No Model.)

2 Sheets—Sheet 1.

G. S. ELLIOTT.
AUTOMATIC RAILWAY SWITCH.

No. 362,578.

Patented May 10, 1887.

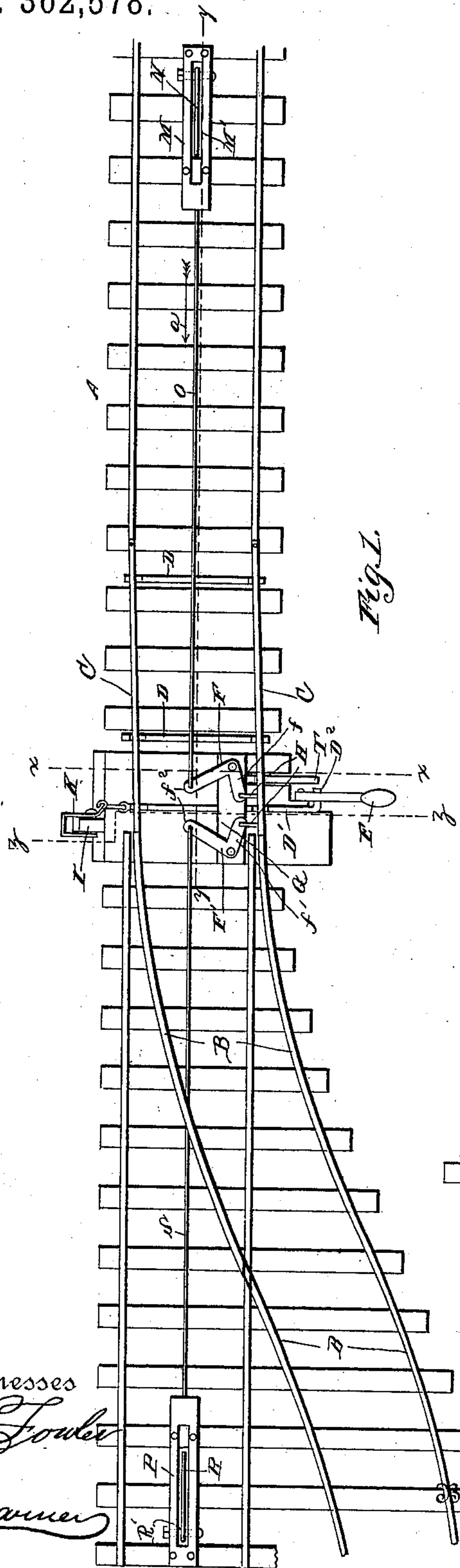
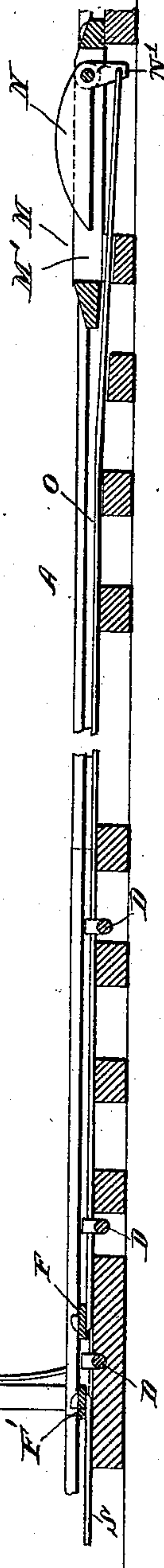


Fig. 1.

Fig. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

GEORGE S. ELLIOTT, OF MOBILE, ALA., ASSIGNOR OF ONE-HALF TO WILLIAM H. LEINKAUF AND JOSEPH H. LEINKAUF, BOTH OF SAME PLACE.

AUTOMATIC RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 362,578, dated May 10, 1887.

Application filed January 11, 1887. Serial No. 234,074. (No model.)

To all whom it may concern:

Be it known that I, GEORGE S. ELLIOTT, a citizen of the United States, residing at Mobile, in the county of Mobile and State of Alabama, have invented a new and useful Improvement in Automatic Railway-Switches, of which the following is a specification.

My invention relates to an improvement in automatic railroad-switches; and it consists in the peculiar construction and combination of devices, that will be more fully set forth hereinafter, and particularly pointed out in the claim.

In the drawings, Figure 1 is a top plan view of a railway-switch embodying my improvements. Figs. 2 and 3 are transverse sectional views of the same, taken on the lines xx and zz of Fig. 1, and showing the parts in different positions. Fig. 4 is a vertical longitudinal sectional view taken on the line yy of Fig. 1.

A represents the main track. B represents the side track, and C represents the switch-rails, which are pivoted at one end and have their outer ends free to play across the converging ends of the main and side track rails. The switch-rails C are connected together at suitable distances throughout their length by a number of couplings, D, such as are commonly employed for this purpose. The coupling D, which is arranged near the free ends of the switch-rails, is provided at one end with an extending arm, D', the outer end of which is bent at right angles to form a tappet-arm, D².

E represents a lever, which is pivoted to one side of the cross-tie, on which the free end of the switch-rails rest, and the said lever is adapted to engage the tappet-arm D² when the lever is moved outwardly from the track, so as to move the free ends of the switch-rails into alignment with the rails B of the side track.

F F' represent a pair of bell-crank levers, which are pivoted on a block, G, that is secured upon the cross-tie at the meeting ends of the switch and track rails, the said bell-crank levers being arranged near one of the switch-rails and on the inner side thereof, and having arms f and f' , respectively, which extend toward each other, and arms f^2 , which extend outwardly toward the center of the track. The arms f and f' are connected to one of the

switch-rails, near the free end thereof, by means of links H.

I represents a vertical signal-post, which is secured to one end of the cross-tie on which the switch-rails rest, and rises therefrom a suitable distance to one side of the track. To this signal-post is pivoted a signal-arm, K, the lower end of which is connected to the free end of the switch-rails, so that the signal-arm will be moved thereby. The upper end of the signal-post I is provided with an opening, L, in which a signal-lamp and suitable colored glasses are adapted to be arranged; and the signal-arm is provided at its upper end with disks or slides K', that are adapted to open or cover the ends of the opening L. The signal-lamp will be lighted at night; but in the day-time the signal-arms will indicate to the engineers of approaching trains the arrangement of the switch.

Midway between the rails of the main track, and at a suitable distance from the signal-post, is arranged a longitudinal block, M, which is provided with a vertical longitudinal slot, M'. N represents a cam-lever, which is pivoted at its outer end in the outer end of the slot M', and is provided at its pivotal end with a depending arm, N'. The upper side of the cam-lever is curved, as shown in Fig. 2.

O represents a rod which extends longitudinally through the center of the main track, and connects the arm f^2 of the bell-crank lever F with the depending arm N' of the cam-lever N.

P represents a block, which is similar to the block M, and is arranged longitudinally in the main track at a suitable distance from the opposite side of the signal-post. In the said block P is pivoted a cam-lever, R, which is similar to the cam-lever N, and is also provided at its outer pivoted end with a depending arm, R'. This arm is connected to the arm f^2 of the bell-crank lever F' by means of a rod, S.

T represents a spring-actuated detent, which is adapted to engage the outer side of one of the switch-rails, so as to hold the latter normally in alignment with the rails of the main track. This detent has an outwardly-extending arm, which is arranged near the lever E, so that the person who is employed to throw the switch-rails to the side track can place one foot upon the detent-arm and depress the same,

so as to release the switch-rails before moving the lever.

The operation of my invention is as follows:

When a train approaches the switch from the direction indicated by the arrow *a* in Fig. 1, the cow-catcher of the locomotive strikes upon the curved upper side of the cam-lever *N* and depresses the same, thereby causing the rod *O* to be drawn outwardly, so as to turn the bell-crank lever *F*, and thereby move the free end of the switch-rails from the side track into alignment with the rails of the main track, and thus automatically set the switch for the main line. When a train approaches the switch from the opposite direction and it is set to the siding, the cow-catcher of the locomotive strikes upon the inclined upper side of the cam-lever *R* and depresses the same, thereby drawing upon the rod *S* and causing the bell-crank lever *F'* to partly turn and move the switch-rail into alignment with the main track.

From the foregoing it will be readily understood that trains passing in either direction will be caused to keep the main track, and will be prevented from running onto the side track, even in the event that the switch-rails have been accidentally left open.

When a train running in the direction of the arrow in Fig. 1 is to be placed on the side track, it is stopped after the locomotive has passed over the cam-lever *N* and before it reaches the

switch-rails *C*. A train attendant or switchman then throws the hand-lever *F* outward from the track, and thereby moves the free ends of the switch-rails *C* into alignment with the side track, and the train then proceeds.

If preferred, the switch-rails *C* may be secured at both ends, and thus prevented from turning, and the rails *B* and the converging rails of the main track may be secured together at their outer ends and adapted to move laterally over the ends of the rails *C*, the mechanism for shifting the said rails *C* being in this event, of course, transferred to the converging rails *B* and the rails of the main track.

Having thus described my invention, I claim—

In an automatic railway-switch, the combination of the switch-rails, the levers *F* and *F'*, connected thereto for moving the same, the cam-levers arranged in the track and connected to the levers *F* and *F'*, the signal-post *I*, and the signal-arm *K*, pivoted thereto and connected to the switch-rails and actuated by the same, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

GEORGE S. ELLIOTT.

Witnesses:

WM. N. MOORE,

JOHN H. SIGGERS.