

(No Model.)

3 Sheets—Sheet 1.

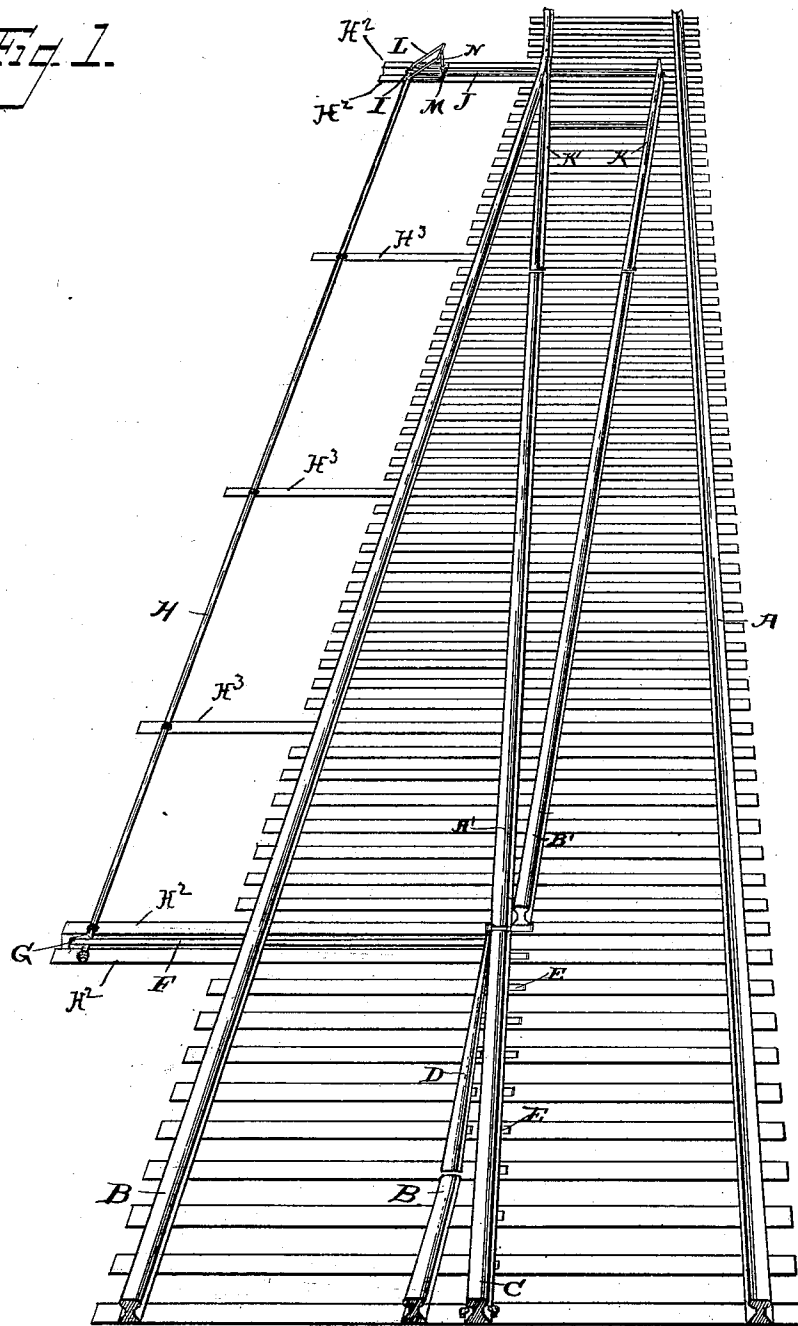
J. H. BAZEMORE.

FROGLESS AUTOMATIC RAILWAY SWITCH.

No. 507,874.

Patented Oct. 31, 1893.

Fig 1.



Witnesses

C. E. Hunt.
Alfred T. Gage

Inventor

J. H. Bazemore
By J. G. Henderson
his Atty.

(No Model.)

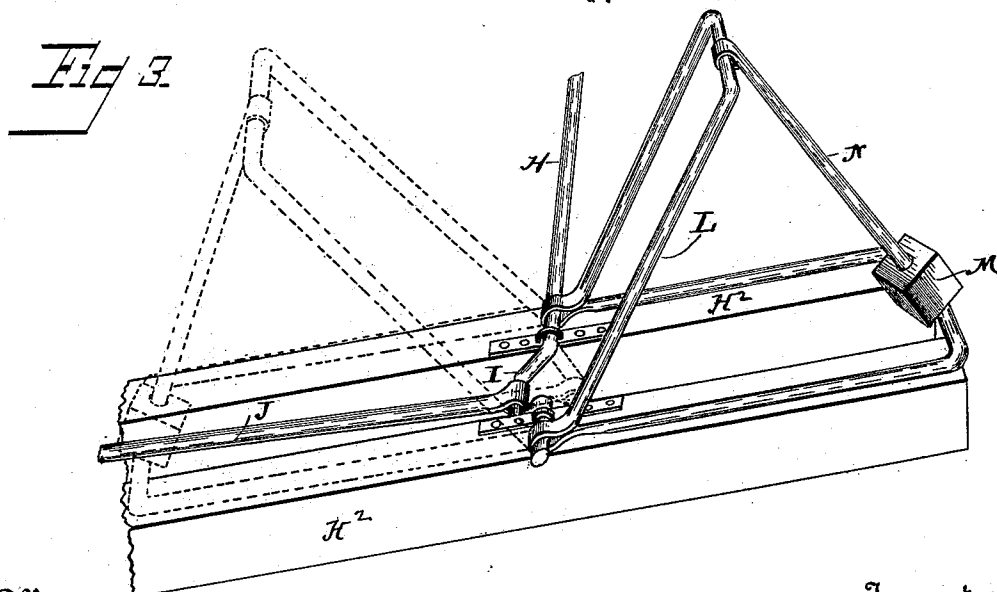
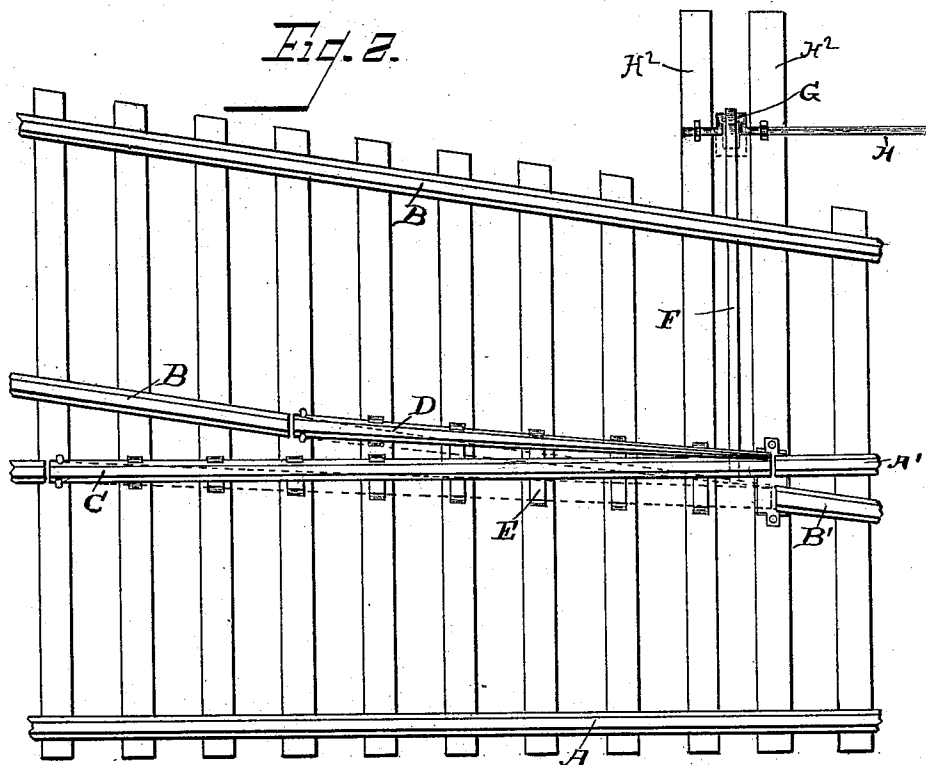
3 Sheets—Sheet 2.

J. H. BAZEMORE.

FROGLESS AUTOMATIC RAILWAY SWITCH.

No. 507,874.

Patented Oct. 31, 1893.



Witnesses

C. E. Hunt.

Alfred T. Sage.

Inventor

Julius H. Bazemore
by *J. E. Henderson* his Att.

(No Model.)

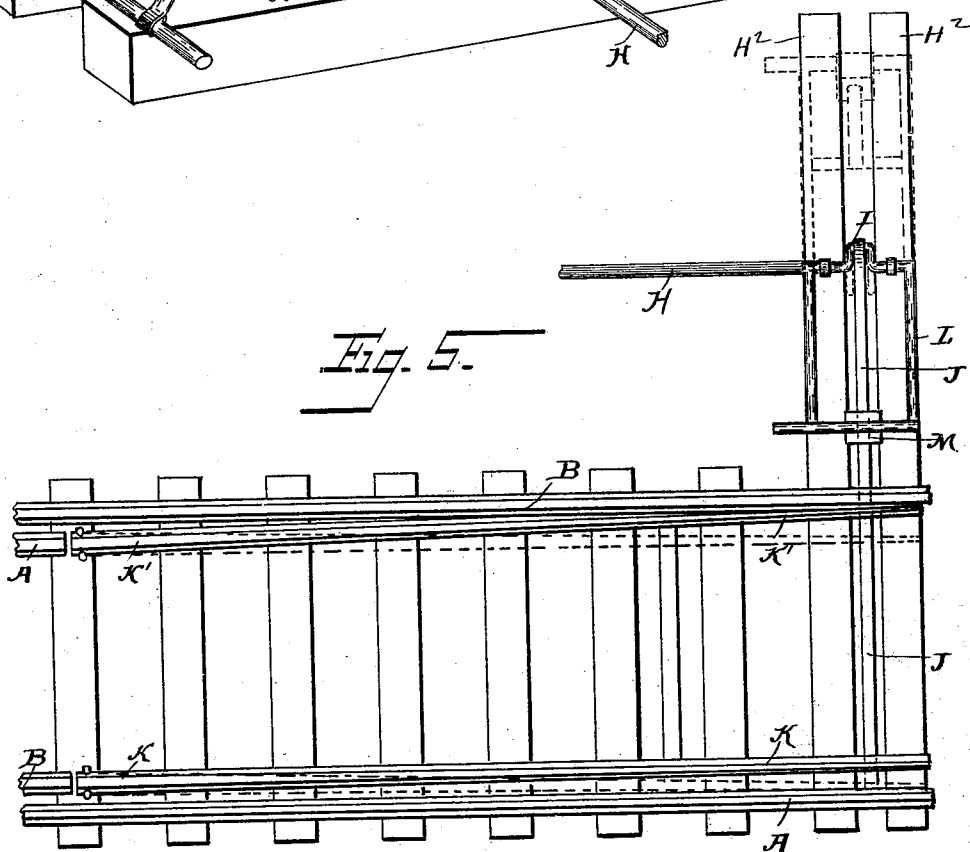
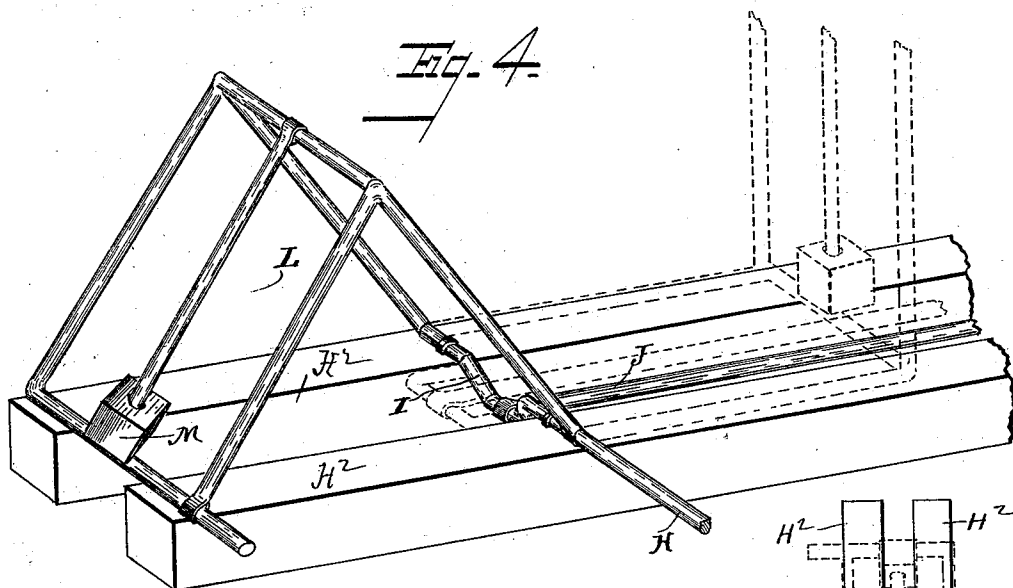
3 Sheets—Sheet 3.

J. H. BAZEMORE.

FROGLESS AUTOMATIC RAILWAY SWITCH.

No. 507,874.

Patented Oct. 31, 1893.



Witnesses
C. E. Hunt.
Alfred T. Sage.

Inventor
J. H. Bazemore
By J. E. Henderson his Atty.

UNITED STATES PATENT OFFICE.

JULIUS H. BAZEMORE, OF GRAY, GEORGIA.

FROGLESS AUTOMATIC RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 507,874, dated October 31, 1893.

Application filed June 20, 1890. Serial No. 356,042. (No model.)

To all whom it may concern.

Be it known that I, JULIUS H. BAZEMORE, a citizen of the United States, residing at Gray, in the county of Jones and State of Georgia, have invented certain new and useful Improvements in Frogless Automatic 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 of reference marked thereon, which form a part of this specification.

My invention has reference to frogless automatic railway switches, and has for its object to so construct the parts that when the switch has been set for the side-track and a train comes over the main-track the switch rail will be moved from its side-track connection to the main-track thereby closing the side-track and opening the main-track, and at the same time shifting the switch rails so as to restore their connection with the main-track thus making a continuous open main-track; it also has for its object to so construct the parts that they will operate to shift the rails to close the main-track as described or to close the side-track as the train may run over the main-track or over the side-track as the case may be.

In constructing the parts to effect the foregoing, they are so constructed that the stands so generally in use may be dispensed with and the cost thereof saved.

To the accomplishment of the foregoing objects and such others as may hereinafter appear by simplified and most effective means, the invention consists in the construction and combination of parts hereinafter more particularly described and claimed reference being had to the accompanying drawings forming part hereof, and in which—

Figure 1 is a perspective of a section of track showing the application of the invention. Fig. 2 is a plan view of the anti-frog rail, on a larger scale than Fig. 1. Fig. 3 is a perspective of the switch lever which allows the switch to be operated automatically in two directions, one position being shown in dotted lines. Fig. 4 is a perspective of a modified form of switch lever by which the

switch may be automatically operated in one direction and locked in position. Fig. 5 is a plan view of the switch-rails having the lever shown in Fig. 4 applied thereto.

In the drawings the letters A and A' designate the main-track rails and B B' the side-track rails. At a suitable point in the length of the track adjacent to the switch, one length C of the main track is secured in the usual way to shift or slide in switching from the main to the side-track, it being permitted to slip for a distance of fifteen feet, more or less, from the frog end, as circumstances may require. Connected to the rail C so as to move therewith is a section of rail D, eight feet long, more or less, and constituting a portion of the side-track rail. The section D is pointed as shown, and secured to move in the usual way, and diverges as shown from the length of rail C. Both the rails C and D rest upon metal plates E secured to the ties, said plates having their ends turned up so as to constitute a stop to limit the side movement of the rails as usual. The diverging rails C and D constitute an anti-frog rail, and when the main-track is open the rail C registers with the fixed part of the inner rail of the main track, and when the side-track is open the rail C is thrown beyond the inner rail of the side-track and the section D brought into register with that portion of the track, as indicated by dotted lines in Fig. 2. The diverging rails C and D are moved simultaneously through a rod F extending say seven feet, more or less, out from the point of the rails C and D and connected to the crank G of the throw rod H. This rod extends longitudinally of the track parallel with the main-track rails to a point opposite the switch-rails at the other end of the switch where it is provided with a crank I to which is connected the rod J extending seven feet, more or less, inwardly to the switch rails K K', to both of which it is connected, the rail K being part of the side-track rail and the rail K' a portion of the main-track rail. The switch rails K and K' will be secured to the ties in the usual well known way, and instead of the form shown may be of any other well known form.

It is to be observed that the rails A' and B' are stationary and that the movable diverg-

ing rails C and D at one end of said rails A' and B' make the connection between said rails A' and B' at one end with the inner rails of the main and side tracks and the switch rails K K' serve to make the connection between the other ends of said rails A' B' and the main rails as illustrated.

At the points where the rods F and J extend inwardly from the throw-rod H, said throw-rod is pivoted to the two ties H², which will be seventeen feet, more or less, long; and at intervals between said two extreme points the throw arm will rest upon the extended ties H³.

The cranks G and H are set at such an angle that when the switch rails and anti-frog rail are to be automatically moved by a passing train the cranks will not be at a dead center. When so arranged the car wheel flange of a passing train will as soon as it strikes the anti-frog rail press that rail laterally to bring its free end in front of the end of the rail onto which it is desired the wheel should run and at the same time the movement of the anti-frog rail is transmitted through its connecting rod to the longitudinal throw rod which turns the crank at the opposite end of the rod and moves the lateral rod connecting with the two switch rails K and K' so as to shift them into position to direct the car wheels onto the proper track at that end of the switch when the train reaches that point. This is the case whether the train be coming over the main-track or passing off from the side-track. It will thus appear that even if the switch is not changed after a train has passed onto or from off the side-track, a train following on the main-track will automatically shift the switch so that the train will keep on the main-track. It will also be apparent that a train having passed onto the side-track it can run back onto the main-track after the train on that track has passed without the necessity of shifting the switch by hand. If however it be desired to have the switch constructed so that it will be operated automatically only by a train passing over the main-track, then in such a case the cranks will be set at such an angle as to be on a dead center, when the switch is set for the main-track so that the switch will be locked in that position, but being off from a dead center when the side switch is open thereby permitting the anti-frog switch to be moved automatically only when moved by a train passing over the main-track as illustrated in Figs. 4 and 5. The same principle is involved in both cases.

The lever L at the switch rail end of the switch may be of the form shown in Figs. 1 and 3, or it may be of the form shown in Fig. 4. In both forms it is preferably provided with a weight M which slides on a rod N so as to weight the lever on whichever side it may be thrown and thereby assist in steadying the same.

This construction is composed of few parts

simple in their construction, not liable to get out of working order and automatic in their operation. It dispenses with the necessity of switch stands, saving the expense thereof which is quite an item. It also avoids the expense of frogs and the objection to their use. It also avoids the necessity of guard rails which besides entailing that much additional expense also contribute largely to the breaking of the car wheel flanges and to injuring the truck frames. It also enables the road to do all its own switch work without sending for special parts, and the whole plant can be put in at a much smaller cost than where frogs, stands and other special appliances have to be provided.

I have described the simplest and what is considered the most efficient construction and arrangement of parts but I do not mean by so doing to restrict myself to all such particulars as they may be varied without departing from the essential features of my invention. It is also to be understood that if forming the anti-frog rail the shorter rail of the two can be pointed, planed, sawed, or feathered as the particular one of such well known forms may be preferred in use.

Having described my invention and set forth its merits, what I claim is—

1. In an automatic frogless switch, the combination with the movable rails and the crank throw-rod connected therewith, of the lever attached to the throw-rod and consisting of a frame substantially triangular in form, and the sliding weight mounted to slide on one side of the frame standing at an angle to the side that joins the throw-rod, substantially as and for the purposes described.

2. In an automatic frogless switch, the combination of the movable rails, C and D, of the main line and siding respectively, the movable rails K' and K of the main line and siding respectively, the intermediate rails A' and B' with which the movable rails of the main line and siding are adapted to respectively register, the throw-rod extending longitudinally of the track and turning on its axis transversely to its length and formed with cranks at points adjacent to the movable rails, the rods connecting the movable rails C and D, and K' and K, with the adjacent cranks of the throw-rod, the lever attached to the throw-rod and consisting of a frame work substantially triangular in form, and the sliding weight carried by the said lever, the said weight being mounted on the side of the triangular frame opposite to the angle formed by the ends of the two sides connected with the throw-rod, substantially as described.

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

JULIUS H. BAZEMORE.

Witnesses:

CLARENCE P. HUTCHINS,
D. D. HOLSENBECK.