

A. N. RANKIN.  
Railway-Switches.

No. 153,114.

Patented July 14, 1874.

Fig. 1.

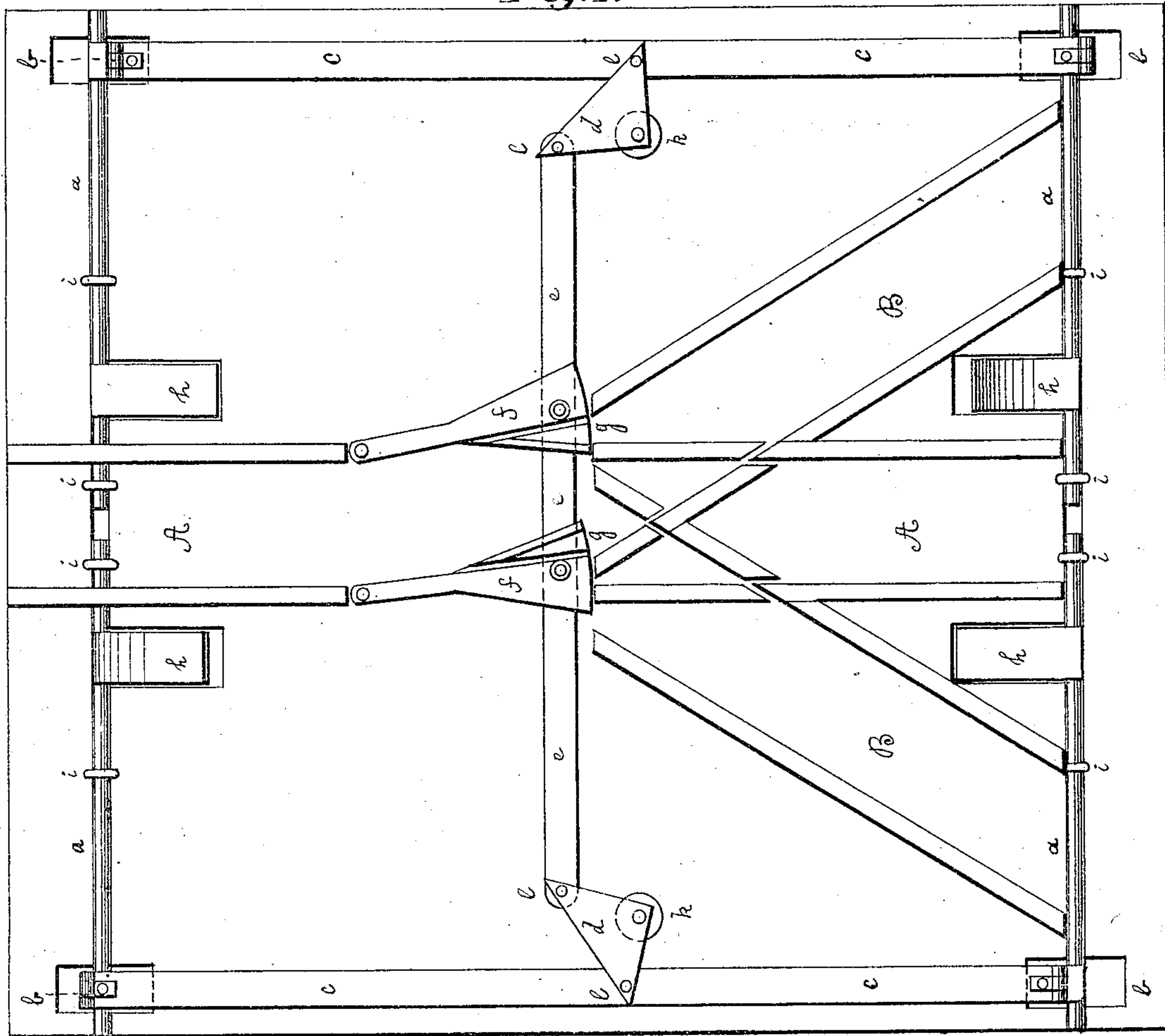
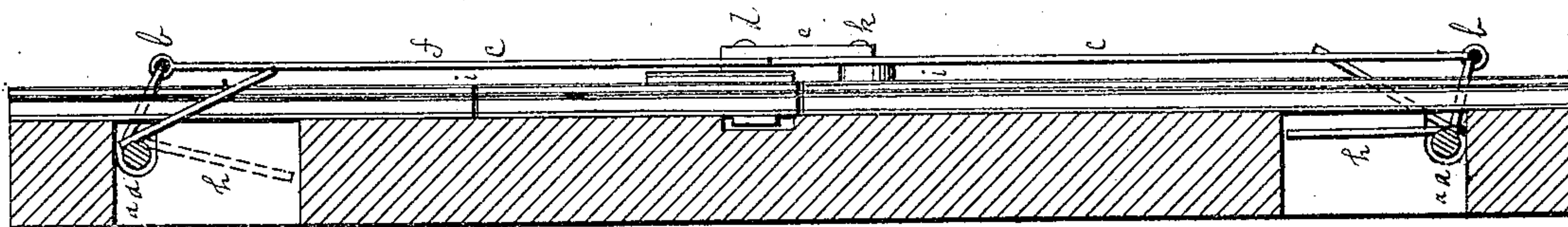


Fig. 3.



Fig. 2.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN RAILWAY-SWITCHES.

Specification forming part of Letters Patent No. **153,114**, dated July 14, 1874; application filed June 3, 1874.

*To all whom it may concern:*

Be it known that I, ANDREW N. RANKIN, of the village of Nyack, county of Rockland, in the State of New York, have invented a new and useful Improvement in Railroad-Switches.

The object of my invention is to so construct the switches for railroads, as that by the use thereof no more fearful casualties will occur from what are now termed open switches, or misplaced switches, as by the use thereof no switch need be open or misplaced.

The following description, taken in connection with the accompanying drawings hereinafter referred to, forms a full and exact specification of the same, wherein I have set forth the nature and principles of my said invention, by which my invention may be distinguished from all others of a similar class, together with such parts as I claim, and desire to secure by Letters Patent.

The present invention consists in so constructing the several connections of a railroad-switch as that by a beam or bar attached to the cow-catcher or pilot, or other suitable part of a locomotive-engine, and under the care of the engineer or fireman, a train advancing toward an open or misplaced switch, the aforesaid beam, bar, or other suitable device attached to said locomotive-engine will act on a bar, plate, or lever connected with the switch, and immediately throw the switch-rails in line with the main track of the said railroad, and thereby prevent a calamity, no matter at what rate of speed such train may be running. Such parts of my switch-connections as I can place under cover, to protect from snow and ice, I so place under cover; and other parts can, for the same reason, be placed over openings in the earth similar to those now called cattle-guards.

Figure 1 is a plan view. Fig. 2 is a transverse section. Fig. 3 is a detail of frog.

In the accompanying plate of drawings, A A represent the main track of a railroad. B B represent the sidings, one on each side of the main track. *a a a a* represent the bars or rods, of suitable size and strength, which partially revolve and set the other parts of the switch-connection in motion, thereby properly adjusting the said switch. *b b b b* represent

the joints or connections between the said revolving bars or rods, and the bars or rods running in line with the main track of the railroad. *c c c c* represent the bars or rods, running in line with the main track of the railroad, aforesaid. *d d* represent triangular pieces of metal, or other suitable device, which are attached at one of their angles to a bar or rod, aforesaid, running in line with the main track of the railroad; and at another of their angles they are attached to a bar or rod connecting such triangular pieces of metal or other suitable device with the movable end of the switch-rails, while their other angle is securely fastened to a sound cross-tie—but not so tightly as to prevent the said triangular piece of metal from partly revolving—this last-named angle being, with its pivotal attachment, the fulcrum of said triangular piece of metal, or other suitable device. *e e e* represent the bars or rods connecting the movable end of the switch-rails to each other, and also connecting such switch-rails to the aforesaid triangular pieces of metal, or other suitable device. *f f* represent pieces of wood, wedge-shaped and covered with plates of steel, with a rim about an inch high upon the outer side, and the surface sloping toward the rail from the aforesaid rim, such guard to be securely bolted to and tightly fitting the outer side of the switch-rails. *g g* represent similar pieces of wood covered with steel plates, and with rims at their side farthest from the rail, and also sloping toward the rail and securely fastened to the switch-rails, but held off from the rails by burs or washers sufficiently far to enable the flanges of all car-wheels to pass between it and said switch-rail. *h h h h* represent the plates, bars, rods, or levers, which are attached firmly to the first-named partially-revolving rods or bars *a a a a*, and which are acted upon, and by being depressed with the beam, bar, or other suitable device, attached to the locomotive-engine, cause the switch-rails to be instantly brought in line with the main track of the railroad. *i i i i i i i* represent loops securing bars or rods *a a a a* to the road-bed or framework, necessary to secure it in place over the cattle-guard opening aforesaid. *k k* represent the pivots and fulcrums of the aforesaid trian-



gular metal plates or other suitable device; and *l l l l* represent the other attachments of said triangular pieces of metal or other suitable device. When the switch-rails are properly in line with the main track of the railroad, the plates, bars, rods, or levers *h h h h* are level with the bed of the railroad, but when the switch-rails are in line with one of the sidings two of the plates, bars, rods, or levers *h h* are elevated to about a perpendicular position, to be depressed by the device upon the locomotive-engine of an approaching train, while, if the switch-rails are in line with the other siding, the other two plates, bars, rods, or levers, are elevated, as aforesaid. In either case one set of plates or levers *h h* is elevated so as to be acted upon by a train moving in one direction and its fellow set is elevated so as to be acted upon by a train moving in the opposite direction.

I claim as my invention—

The combination of the bars, rods, or rollers *a a a a*, of suitable size and strength, the joint or connection of it with the bars or rods, running in line with the main track of a railroad, *b b b b*, the bars or rods *c c c c*, run-

ning in line with the main track of a railroad, the triangular plates of metal *d d*, or other suitable device, attached to the aforesaid bars or rods *c c*, and also attached to the bars or rods *e e*, the wooden wedge-shaped guards covered with steel plates *f f*, the wooden wedge-shaped guards covered with steel plates *g g*, the plates, bars, rods, or levers *h h h h*, to be acted upon by a suitable device, a beam, a bar, or any other suitable method, from a suitable position on the locomotive, tender, or a car, and thereby depressed so as to bring the switch-rails instantly in line with the main track of a railroad, the loops *i i i i i i i i*, or other suitable device, for securing in position the bar, rod, or roller *a a a a*, the fulcrum pivot of the triangular piece of metal or other suitable device, and the other attachments of such triangular piece of metal, all arranged and operating substantially as and for the purpose described.

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Witnesses:

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