JAMES E. KEA.

Improvement in Railroad-Switches.

No. 114,687. Patented May 9, 1871.

Fig. 1.

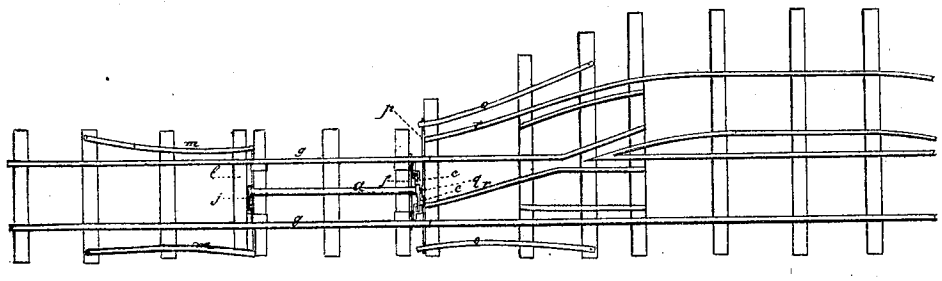


Fig. 2.

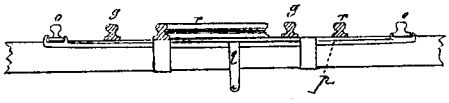


Fig. 3.

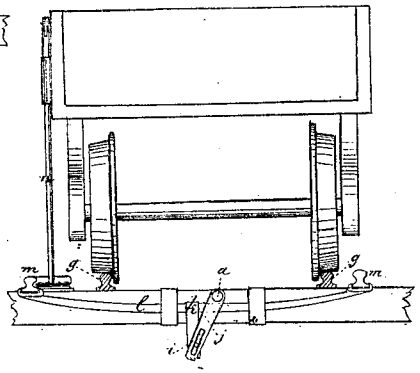
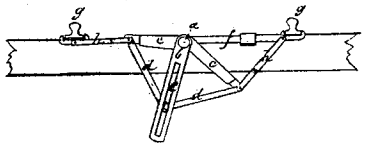


Fig. 4.



Witnesses:

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AM. PHOTO-LITHOGRAPHIC CO. N.Y. (OSBORNE'S PROCESS)

UNITED STATES PATENT OFFICE.

JAMES E. KEA, OF MAGNOLIA, NORTH CAROLINA.

IMPROVEMENT IN RAILROAD-SWITCHES.

Specification forming part of Letters Patent No. **114,687**, dated May 9, 1871.

To all whom it may concern:

Be it known that I, JAMES E. KEA, of Magnolia, in the county of Duplin and State of North Carolina, have invented a new and Improved Railroad-Switch; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a plan of the switch. Fig. 2 is a transverse vertical section showing the connecting-bar and its driving-arm. Fig. 3 is a similar section showing the locking mechanism, and Fig. 4 is a similar section showing the arm on the horizontal shaft that communicates the motion of the latter to the locking mechanism and driving-arm.

This invention belongs to that class of railroad-switches which are automatically operated by a device attached to the engine.

The invention relates to a mechanism for automatically locking the rails after they have been moved to the desired position, in order to hold them fast while the train is passing over them, the devices for locking and moving the rails being essentially the same.

Referring to the drawings, the said locking mechanism is shown to the best advantage in Fig. 4, *a* being a shaft mounted in ties between the movable rails *g g* of the main track, next to one end of the fixed rails of the main track and siding.

b is an arm fixed on the end of the shaft *a*, and extending downward into a cavity in the earth beneath the rails.

c c are arms jointed to or arranged to turn loose on the shaft *a*, next to the arm *b*, and extending to each side thereof, forming angles therewith of nearly ninety degrees.

d are rods connecting the outer ends of the arms *c* with the arm *b* by means of a pin, to which said rods are jointed, and which enters a slot, *e*, formed lengthwise of the arm *b*.

f is a rod connecting the ends of the rails *g*.

h h are links connecting the rods *d* with the rod *f*.

When the arm *b* is turned to one side by the rotation of the shaft *a* far enough to bring one of the links *h* and the arm *c* with which it is connected both into a straight line parallel with the rod *f*, said link and arm form a locking device, which prevent the rails *g* from moving to either side. Such lock is easily released, however, in the same way that it is formed, by turning the shaft *a* in the opposite direction. The shaft *a*, at its other end, is provided with an arm which likewise extends downward, and is formed with a slot, *i*, into which enters a pin that projects from an arm, *k*, which extends downward from a rod, *l*, that connects the ends of the side rails, *m*, which receive motion from the rod *n* of the engine in the usual manner. By means of the rod *l* and arms *j k* the movement of the rails *m* is communicated to the shaft *a*, to cause it to perform its above described office.

The outside rails, *o o*, are connected at their movable ends by a rod, *p*, Fig. 2, from which rod an arm, *q*, extends downward, the same being provided, near its lower end, with a pin that extends into the slot *e* of the arm *b*. By this means the motion of the arm *b* is communicated to the rails *o*, so as to cause them to move in unison with the rails *g*.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The slotted arm *b*, arms *c*, turning loose on the shaft *a*, rods *d d*, having a pin which works in the slot of said arm, links *h h*, and bar *f*, arranged to move and lock the rails *g g*, as shown and described.

JAMES E. KEA.

Witnesses:

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