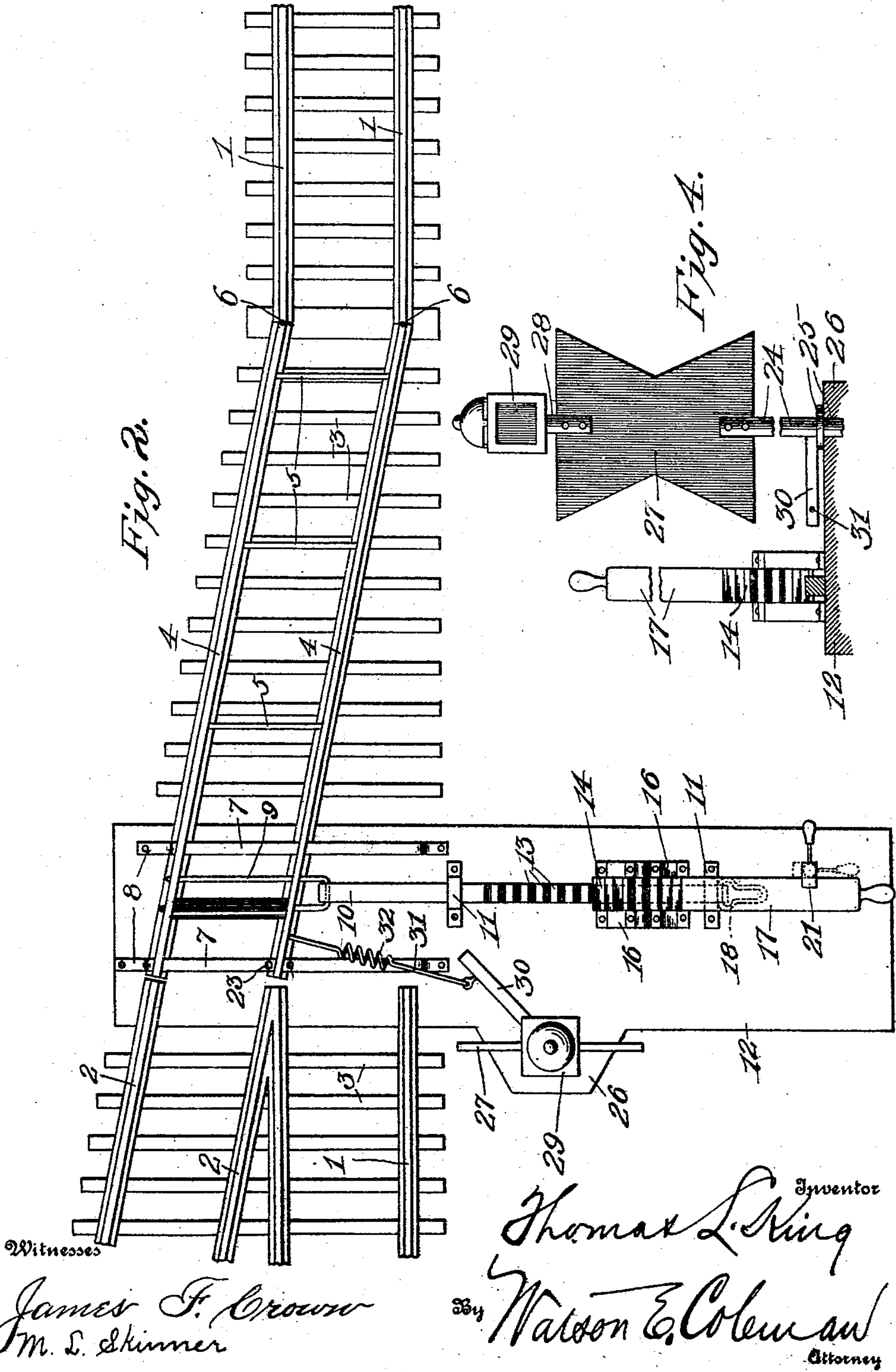




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APPLICATION FILED MAY 6, 1908.

Patented Jan. 5, 1909.  
2 SHEETS—SHEET 2.





# UNITED STATES PATENT OFFICE.

THOMAS L. KING, OF HAMPTON, ARKANSAS.

## RAILWAY SWITCH AND SIGNAL.

No. 908,578.

Specification of Letters Patent.

Patented Jan. 5, 1909.

Application filed May 6, 1908. Serial No. 431,180.

*To all whom it may concern:*

Be it known that I, THOMAS L. KING, a citizen of the United States, residing at Hampton, in the county of Calhoun and State of Arkansas, have invented certain new and useful Improvements in Railway Switches and Signals, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to improvements in railway switches and signals therefor; and it consists of the novel features of construction and the combination and arrangement of devices hereinafter fully described and claimed.

The object of the invention is to improve and simplify the construction and operation of devices of this character and thereby render the same less expensive and more efficient and reliable.

The above and other objects of the invention are attained in its preferred embodiment illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of my improved switch and signal therefor, showing the main line closed; Fig. 2 is a similar view showing the switch set for the side track; Fig. 3 is a vertical transverse section taken on the plane indicated by the line 3—3 in Fig. 1; and Fig. 4 is a vertical longitudinal section taken on the plane indicated by the line 4—4 in Fig. 1.

In the drawings 1 denotes the track rails of the main line and 2 the track rails of the siding. These rails are of ordinary construction and mounted in the usual manner upon wooden cross ties 3.

4 denotes the switch rails which are connected together and spaced apart by metal cross rods 5 and which have one of their ends pivotally connected at 6 to the track rails 1. The other or free ends of the switch rails or points 4 are adapted to be simultaneously shifted from the main track rails 1 to the siding track rails 2 and in order to guide them in their sliding movement I preferably provide one or more horizontally disposed supporting and guide bars 7 which extend through openings in the web portions of the rails 4 and have their angularly bent ends 8 secured to the cross ties 4 or to heavy cross beams or timbers, as illustrated in Fig. 3. Said angularly bent ends of the bars 7 form stop shoulders to limit the movement of the switch rails and they also space the intermediate portions of said bars above the cross ties or sills so as to hold the switch rails off of

the latter when there is no train upon the switch.

In order to shift the switch points or rails 4 I loosely connect them by a yoke or the like 9 to one end of a rack bar 10 mounted for sliding movement in suitable guides 11 arranged upon extended portions of the cross ties or upon suitable cross beams or sills 12. Rack teeth 13 are formed upon the upper edge of the bar 10 and they are adapted to mesh with a segmental gear 14 journaled at 15 in suitable bearings 16 arranged upon the sills or beams 12. The gear 14 is formed with a projecting handle or lever 17 by means of which the switch may be readily thrown.

For the purpose of locking the switch when the main line is closed, I pivot to one end of the rack bar 10 a slotted hasp fastener 18 adapted to engage a keeper loop or eye 19 securely fastened to the sills or beams 12 and in turn adapted to receive a padlock or equivalent securing device 20.

For the purpose of temporarily securing the switch rails 4 in alinement with the siding rails 2 I arrange upon the sill 12 an upright catch 21 the lower end of which is pivoted and the upper end of which is formed with a shoulder or projection to engage the lever 17, as illustrated in Fig. 2. I may also lock the switch rails 4 in either of their two positions by forming in one of the guide bars 7 openings 22 to receive removable locking pins or bolts 23, as illustrated in Fig. 3. The openings 22 are arranged in the bar 7 so that the pins 23 when inserted in them will engage the opposite sides of one of the rails 4.

My improved signal comprises an upright shaft 24 having its lower end rotatably mounted at 25 in an extended portion of one of the cross ties or sills and its upper portion mounted in a suitable bearing bracket 26. Said shaft carries a flat signal blade or target 27 at the top of which is an upwardly projecting arm 28 to support a lamp 29. Upon the lower portion of the shaft 24 is a crank arm 30 which is connected by a link 31 to one of the switch rails 4. This link 31 is preferably constructed of resilient wire and contains a coil 32 so that the connection between the switch and the signal is yielding. The signal blade is so constructed and connected to the switch rail and the lamp is so arranged upon it that when the main line is closed the plane of the blade will be parallel with the track so that an engineer approaching the switch from either side will only see the edge of



the blade and the white light displayed by the lamp. When, however, the switch is shifted to open the siding the signal blade will be given a quarter of a revolution so that  
 5 it will be disposed transversely with respect to the track and its flat faces will be seen by the engineers of approaching trains. When in this latter position the lamp will also show red lights in both directions of the stretch of  
 10 the track.

Having thus described my invention what I claim is:

1. The combination with the rails of a main track and a siding, of switch rails  
 15 spaced apart and connected together and pivoted at one end to the rails of the main line, the web portions of said switch rails being formed with slots, a transverse guide bar extending through the slots in said switch  
 20 rails and secured at their ends, and means for actuating said switch rails.

2. The combination with the rails of a main track and a siding, of switch rails spaced apart and connected together and  
 25 pivoted at one end to the rails of the main line, the web portions of said switch rails being formed with slots, a transverse guide bar extending through the slots in said switch rails and secured at their ends, means  
 30 upon said guide bar for holding said switch rails against movement, and means for operating said switch rails.

3. The combination with the rails of a main track and a siding, of switch rails  
 35 spaced apart and connected together and

pivoted at one end to the rails of the main line, means for guiding the free ends of the switch rails, a rack bar connected to the switch rails, a gear for actuating said rack bar, a hasp connected to the rack bar, a  
 40 keeper for the hasp and a locking element engaged with said keeper.

4. The combination with the rails of a main track and a siding, of switch rails spaced apart and connected together and  
 45 pivoted at one end to the rails of the main line, a transverse guide bar extending through openings in the track rails and having its ends secured, said guide bar being formed with openings, removable locking  
 50 pins in said openings and means for shifting the switch rails.

5. The combination with the rails of a main track and a siding, of switch rails spaced apart and connected together and  
 55 pivoted at one end to the rails of the main line, means for guiding the free ends of the switch rails, means for shifting said switch rails, a rotatable upright signal shaft, a crank arm projecting from said shaft, a resilient  
 60 connection between the crank arm and the switch rail, and a signal blade upon said shaft.

In testimony whereof I hereunto affix my signature in the presence of two witnesses. 65

THOMAS L. KING.

Witnesses:

GEORGE KING,  
 CARL C. CAMPBELL.