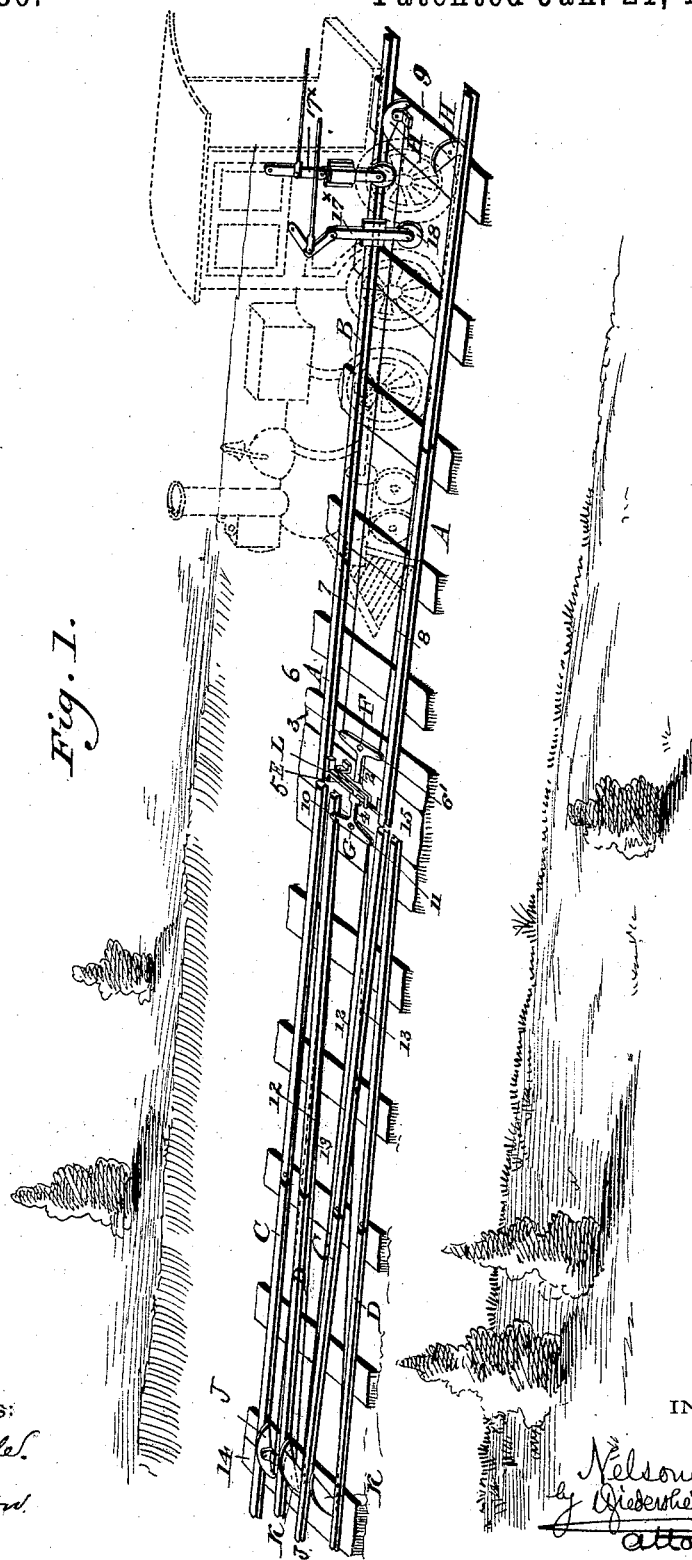


2 Sheets—Sheet 1.

No. 419,980.

Patented Jan. 21, 1890.



WITNESSES:

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Robt. Atton.

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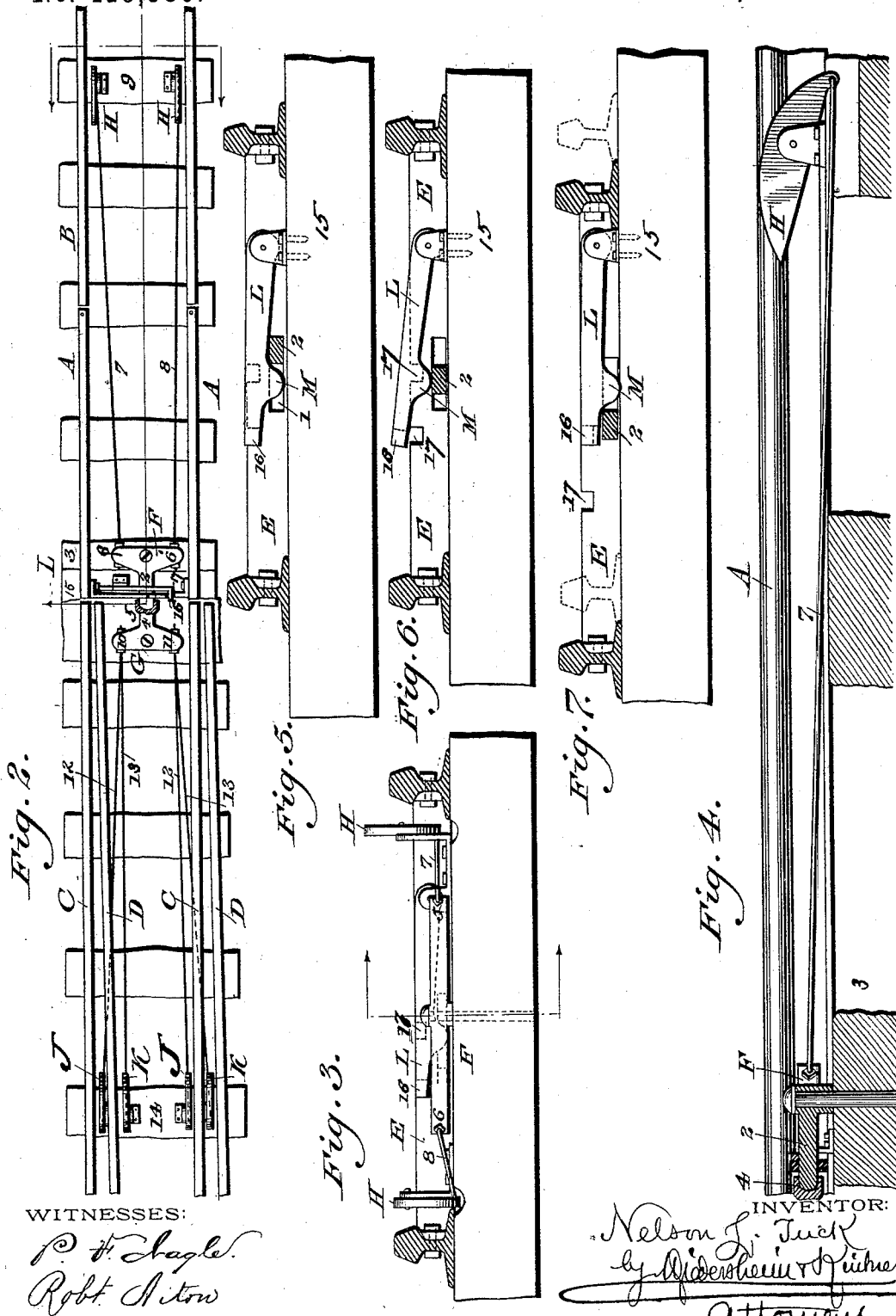
(No Model.)

2 Sheets—Sheet 2.

N. L. TUCK.  
RAILROAD SWITCH.

No. 419,980.

Patented Jan. 21, 1890.



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# UNITED STATES PATENT OFFICE.

NELSON L. TUCK, OF PHILADELPHIA, PENNSYLVANIA.

## RAILROAD-SWITCH.

SPECIFICATION forming part of Letters Patent No. 419,980, dated January 21, 1890.

Application filed December 11, 1888. Serial No. 293,277. (No model.)

*To all whom it may concern:*

Be it known that I, NELSON L. TUCK, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Railroad-Switches, which improvement is fully set forth in the following specification and accompanying drawings.

My invention consists of a railroad-switch which may be operated from the locomotive-engine, the construction and operation being hereinafter fully set forth.

It also consists of means for locking the switch.

It also consists of means for automatically unlocking the switch.

Figure 1 represents a perspective view of a railroad-switch embodying my invention. Fig. 2 represents a top or plan view thereof on an enlarged scale. Fig. 3 represents a view of the switch in the transverse direction thereof on an enlarged scale. Fig. 4 represents a longitudinal vertical section thereof. Figs. 5, 6, and 7 are views illustrating the locking operations.

Similar letters and numerals of reference indicate corresponding parts in the several figures.

Referring to the drawings, A designates the switch-rails; B C, the rails of the main track, and D the rails of the siding which, excepting the features of my invention applied thereto, are of usual construction.

E designates a cross-bar which connects the switch-rails and having at the center of the same a slot 1, which receives the limb 2 of a T-shaped lever F, the latter being pivoted or mounted on a suitable support 3 on the bed of the road at the head end of the switch. The limb 2 freely enters the bifurcated end of the limb 4 of a T-shaped lever G as a pivot, which lever is pivoted or mounted on a suitable support 5, near the head end of a switch on the side of the bar E opposite to the lever F. The two levers F G by their connection impart motion to each other. Connected with the limbs 6 6' of the head of the lever F are rods 7 8, which are connected, respectively, with pivoted feet H, located adjacent to the tracks A and mounted on a suitable support 9 on the road-bed.

Connected with the limbs 10 11 of the lever

G are two sets of rods 12 and 13, which are connected, respectively, with sets of pivoted feet J K, located adjacent to the tracks C D, respectively, and mounted on a suitable support 14 on the road-bed.

Mounted on a support 15 at the head end of the switch is a locking-lever L, which has at its free end a lip 16, which is adapted to enter either of the recesses or notches 17 on the upper side of the cross-bar E. On the under side of said lever L is a downward projection or swell M, which has its under face rounded and adapted to have the limb 2 of the lever F come in contact with it, for purposes hereinafter explained.

The engine is provided with movable bars 17<sup>x</sup>, which when lowered, serve to depress one set of the feet H J K, said bars carrying rollers 18, so as to ride easily on said feet. The bars are under control of the engineer or fireman on the engine, and may be raised when desired, so as to clear the feet, any suitable means being employed to operate the same. It will be seen that when the switch is to be shifted or set to the main track or siding, the proper bar is lowered, whereby the elevated end of the respective foot is depressed, the effect of which is the operation of the rods 7 and 8 or 12 and 13 and consequently of the levers F G. As the limb 2 of the lever F moves, as the case may be, to the right or left in the slots 1, it first bears against the projection M, so as to raise the same. This lifts the lip 16 from one of the recesses 17 which it occupies, and unlocks the bar E. The limb 2 now carries the bar with it, whereby the switch-rail is shifted and set in continuity with one set of the rails C D. When the bar has completed its motion, the lip 16 is above one of the recesses 17, the lever L then dropping, so that the lip enters the proper recess, whereby the bar and consequently the switch is again locked by said lever L. The projection M is now on the opposite side of the limb 2, the two positions of the same being clearly illustrated in Figs. 5 and 7.

It is evident that the switch may be operated from the engine in either direction of the road, whether the engine is on the main track or siding, the object of the two sets of feet J and K being to throw the switch either to the right or left, particularly where there

is a V-shaped track where trains are obliged to keep to the right or left, and also in reversing.

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

10 1. In a railroad-switch, the combination of the two sets of pivoted feet J and K, the rods connected to the same, the T-shaped lever G, having two of its limbs connected with said rods, the T-shaped lever F, having its central limb bifurcated to receive the central limb of the said T-shaped lever G, the rods connected with the last-mentioned lever, the pivoted feet H, for operating said rods, and the  
15 connecting-rod for the switch-rails, having a recess to receive the central limb of one of the T-shaped levers F, all arranged and adapted to operate substantially in the manner described.  
20

2. In a railroad-switch, the combination of the pivoted levers having their central limbs pivoted together, the connecting-rod having the slot to receive the central limb of one of  
25 said levers for shifting said rod, the lever having the swell adapted to be engaged by said lever, and the lip for engaging and locking the connecting-rod, substantially in the manner and for the purpose described.

3. In a railroad-switch, the combination of 30 the levers pivoted together, the connecting-rod of the switch-rails having a slot to receive the said levers, recesses in said connecting-rod, a lever having a lip for engaging said recesses, and a swelled portion adapted to be  
35 engaged by said levers, the pivoted feet connected with the toggle-levers for operating the same, and devices in the engine for depressing said pivoted feet for operating the levers, all arranged and adapted to operate  
40 substantially in the manner described.

4. An automatic railroad-switch consisting of two switch-rails connected by a cross-bar, the latter having a central slot therein, two  
45 T-shaped levers pivoted to stationary supports, one of said levers having a limb passing through the slot of the bar and inserted in a bifurcated portion of the other lever, and pivoted feet connected with rods to said T-shaped levers, said parts being combined  
50 substantially as described.

NELSON L. TUCK.

Witnesses:

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