

(No Model.)

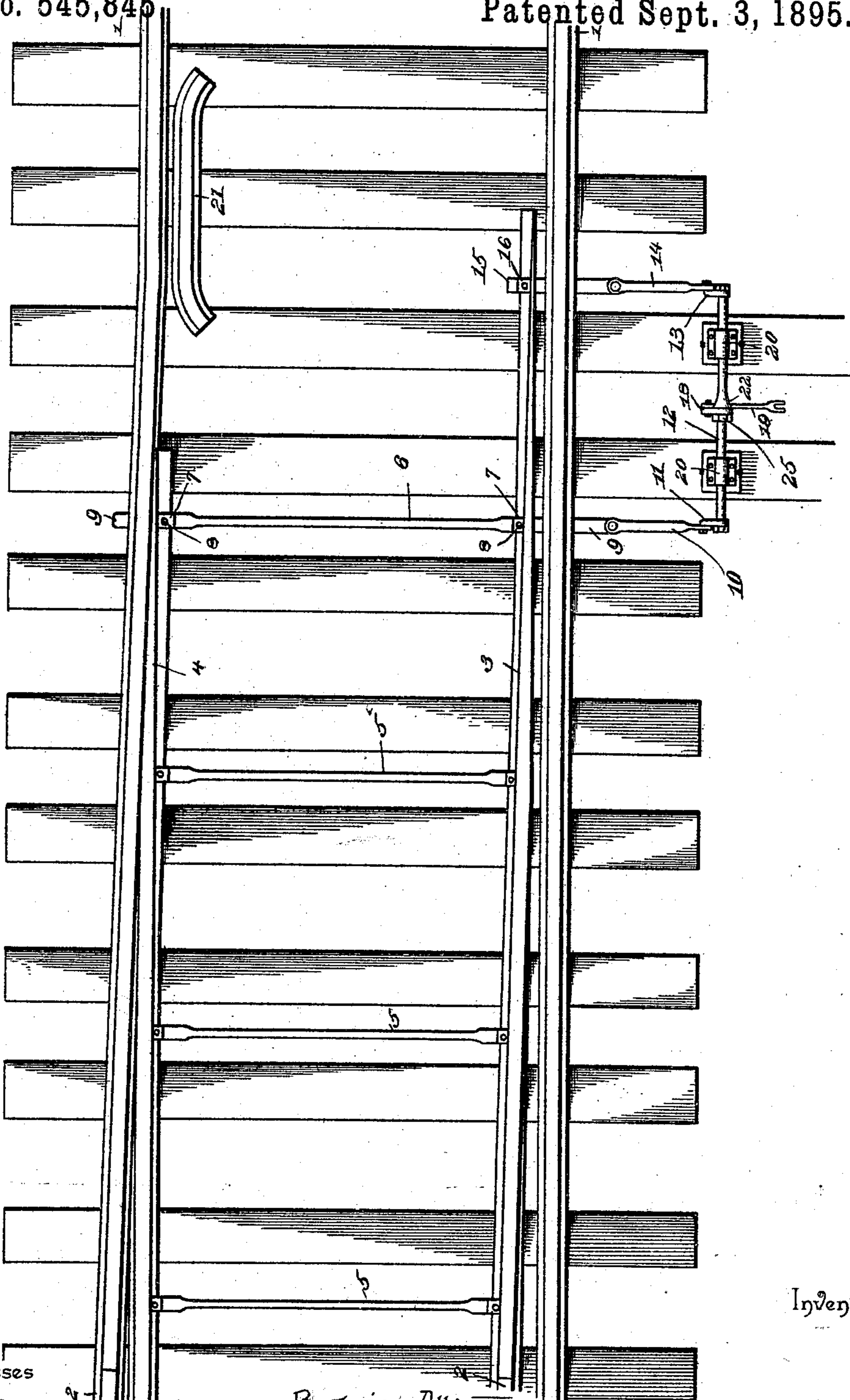
2 Sheets—Sheet 1.

R. G. BURTON.
RAILROAD SWITCH.

No. 545,845

Patented Sept. 3, 1895.

Fig. 1.



Witnesses

John C. Shaw
J. E. Shaw

By the Attorneys.

Rufus G. Burton,
C. A. Snow & Co.

Inventor

(No Model.)

2 Sheets—Sheet 2.

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RAILROAD SWITCH.

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Fig. 2.

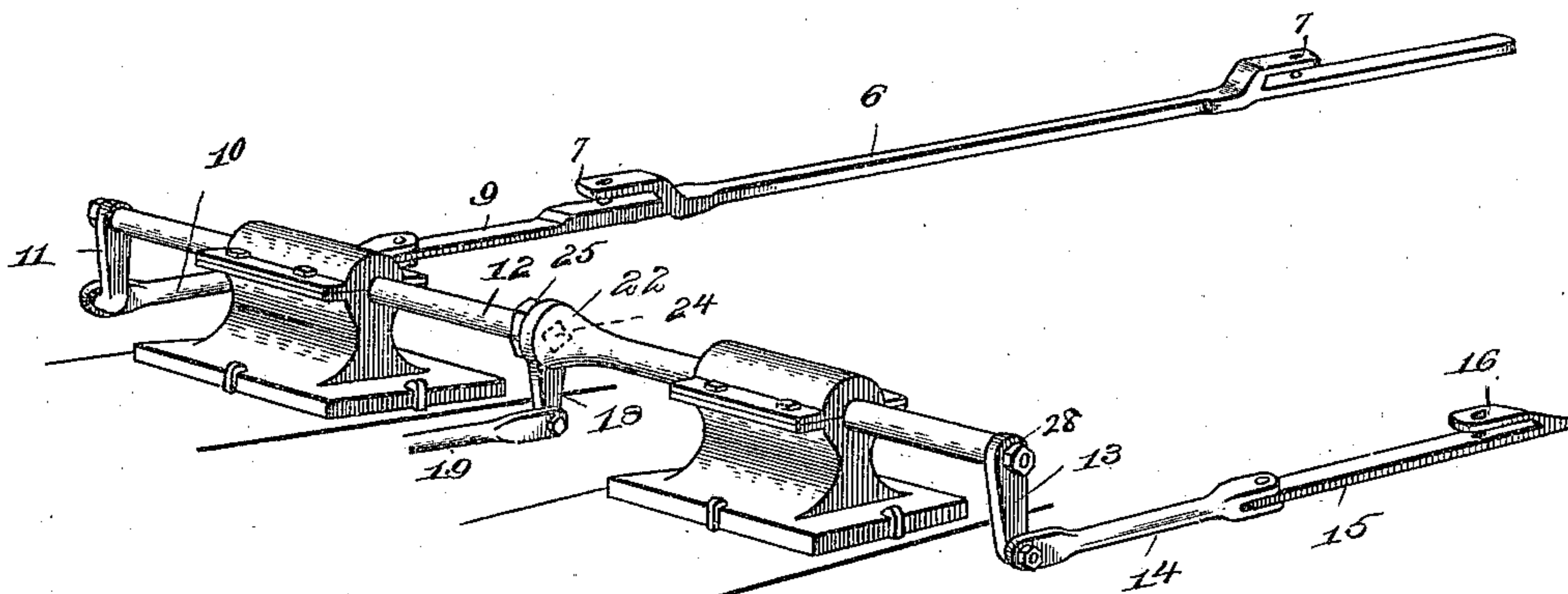


Fig. 3.

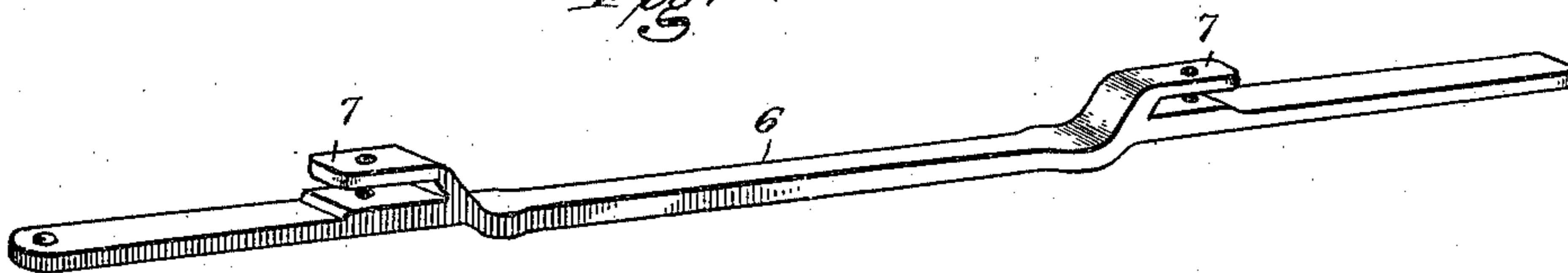


Fig. 4.

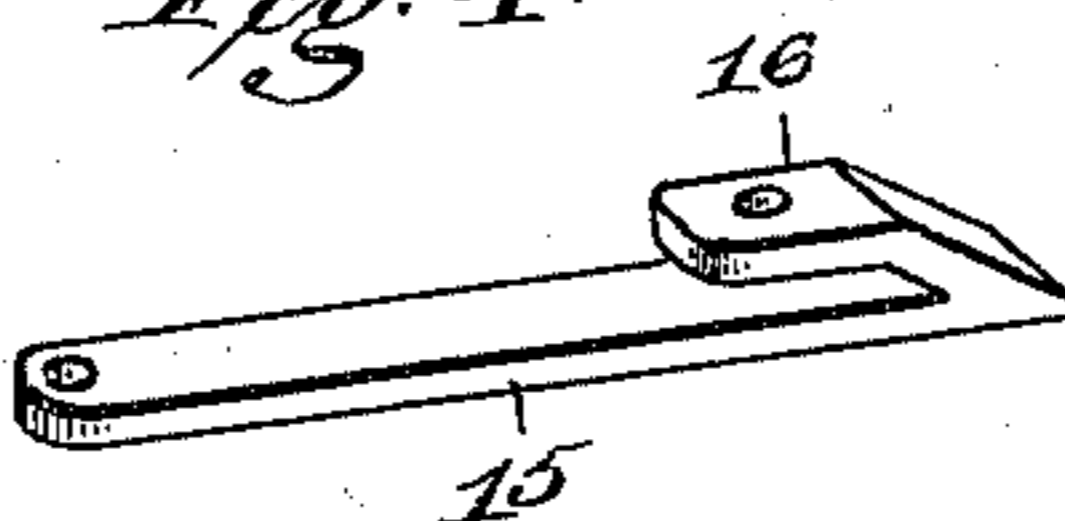


Fig. 5.

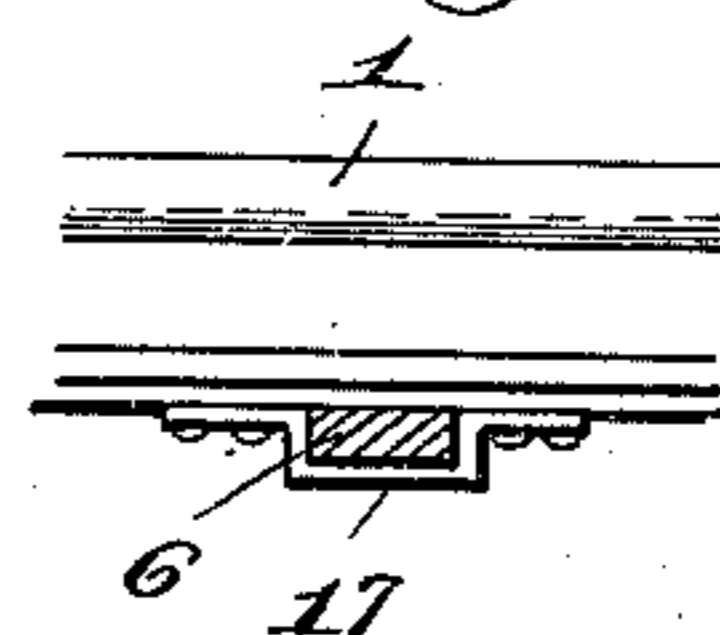
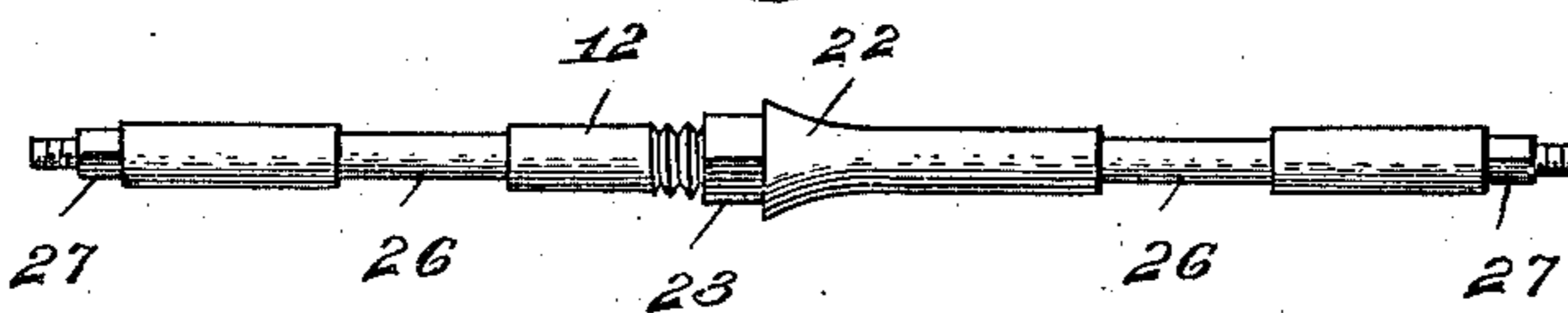


Fig. 6.



Inventor

Witnesses

John C. Shaw
[Signature]

By *[Signature]* Rufus G. Burton,
Attorney.

[Signature]
C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

RUFUS G. BURTON, OF BLUEFIELD, WEST VIRGINIA.

RAILROAD-SWITCH.

SPECIFICATION forming part of Letters Patent No. 545,845, dated September 3, 1895.

Application filed January 30, 1895. Serial No. 536,690. (No model.)

To all whom it may concern:

Be it known that I, RUFUS G. BURTON, a citizen of the United States, residing at Bluefield, in the county of Mercer and State of West Virginia, have invented a new and useful Railroad-Switch, of which the following is a specification.

My invention relates to railroad-switches, and has for its object to provide a simple, inexpensive, and efficient device whereby the switch-rail at the outer side of the curve is arranged in such position as to prevent the wheels from passing the end thereof when the switch is open without passing upon the side rails, and to provide means whereby when the switch is closed the wheels engage the end of the switch-rail at the inner side of the curve, and thus insure the proper transfer of the wheel from the main-track rails to the switch-rails without engaging the end of the outer switch-rail.

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings, Figure 1 is a plan view of a switch constructed in accordance with my invention, the switch being closed. Fig. 2 is a perspective view of the switch-rail-operating mechanism. Fig. 3 is a detail view, in perspective, of the switch-bar. Fig. 4 is a similar view of a clamp which is used in connection with the switch-bar for attachment to the extremity of the inner or long switch-rail. Fig. 5 is a detail view of the rock-shaft. Fig. 6 is a detail view to show the keeper by which the switch-bar is guided.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates the main-track rails; 2, the siding-track rails, and 3 and 4 the switch-rails, the rail 3 being arranged at the outer side of the curve, or that side which the siding-track rails are deflected. The outer switch-rail 3 is extended at its free end beyond the extremity of the inner switch-rail 4, such extension being accomplished in the construction illustrated by arranging the pivotal points of said switch-rails obliquely with reference to the main-track rails.

The switch-rails are connected for simultaneous operation by transverse tie-rods 5 and near their free ends by a switch-bar 6, said switch-bar being provided at points near its extremities with clips 7 to engage the inner edges of the feet of the rails, to which they are secured by means of bolts 8. The switch-bar is extended beyond one of said clips to form a tongue 9, to which is pivotally connected, for horizontal swinging movement, a connecting-rod 10, which is connected at its opposite end to the crank 11, carried by the rock-shaft 12. The other end of said rock-shaft is provided with a similar crank 13, which is connected by a rod 14 with a clamp 15. This clamp is used in connection with the switch-bar 6, and is provided with a clip 16, secured to the inner edge of the foot of said longer or outer switch-rail 3. A keeper 17 is arranged under the siding-rail at a point contiguous to which the clamp 15 passes thereunder, to prevent depression of the rail. A central crank 18 is arranged on the rock-shaft, and to its free end is connected a bar 19, which may receive motion to rock the shaft from any suitable mechanism. (Not shown.) The rock-shaft is mounted in bearings 20, which are arranged on contiguous ties extended for that purpose. A guard-rail 21 is arranged adjacent to the inner side of the inner main-track rail to prevent deflection of the wheels.

From the above description it will be seen that the outer switch-rail receives greater throw at its extremity than the inner switch-rail, thereby removing it from the line of the track-rail a sufficient distance to avoid obstructing the latter when traversed by a wheel either in passing to or from the switch-rails or in entering the siding. In order to provide for the slight vertical movement imparted to the connecting-rods 10 and 14 by the cranks on the extremities of the rock-shaft, the extremities of the switch-bar and clamp are flattened and made capable of bending.

The rock-shaft is provided at its center with a shoulder 22, adjacent to which is formed an angular seat 23 to receive the square eye 24 on the crank 18, said eye being secured in place by means of a nut 25, which is threaded upon the rock-shaft contiguous to the said seat. The rock-shaft is further provided with reduced journals 26 to fit in the bearings 20,

and terminal seats 27 are provided to receive the eyes 28 on the terminal crank-arms 11 and 13.

This being the construction of the improved switch mechanism, the operation thereof is as follows: The movement of the rock-shaft imparts a swinging movement to the switch-rails, and by reason of the different points of attachment of the switch-bar to the outer and inner switch-rails the outer rail will receive a greater throw at its free end than the inner rail, and as the outer rail usually offers an obstruction to the wheels of the train in passing from the main to the siding track this additional throw moves the extremity of the outer rail out of the path of the wheels.

It will be seen that the construction and arrangement of the parts of the improved switch are simple, and that the same may be manufactured at a small cost by reason of such simplicity, and, furthermore, that without an excessive number of joints sufficient flexibility of the parts is provided to prevent straining and avoid looseness.

The flexibility or elasticity of the terminal tongues on the switch-bar and clamp holds the rock-shaft, and hence the other parts of the switch, in either of the adjusted positions thereof without preventing the movement of the parts from one position to the other. In other words, the construction described forms a lock which requires no independent manipulation and prevents disarrangement of the switch by jarring.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having described my invention, I claim—

1. The combination with main and siding-track rails, of switch-rails, a switch-bar connecting said switch rails and provided with an integral terminal elastic tongue 9, a rock-shaft and means for operating the same, a crank carried by the rock-shaft, and a rod connecting the crank to the extremity of said

tongue and adapted to deflect the tongue as the crank is moved from one position to the other to reverse the positions of the switch-rails, the resilience of the tongue locking the parts in either position substantially as specified.

2. The combination with main and siding-track rails, of connected switch-rails, a switch-bar connected to the rails and having a terminal horizontally flattened elastic tongue, a horizontally disposed rock-shaft and means for operating the same, a crank carried by the extremity of the rock-shaft, and a connecting-rod between said crank and the extremity of the tongue on the switch-bar, said connecting rod being pivoted to the tongue to swing in a horizontal plane and avoid binding and straining of the parts, substantially as specified.

3. The combination with main and siding track rails, and inner and outer switch-rails, the outer switch-rail extending beyond the extremities of the inner switch-rail, of a switch-bar provided with clips to engage the inner flanges of said switch-rails and terminating beyond the outer switch-rail in an integral flat spring tongue, a clamp attached to the extremity of the outer switch-rail, a horizontal rock-shaft arranged parallel with the main track-rails and having terminal crank arms, connecting rods between the extremities of the crank arms and the ends of said tongue and clamp, the rock-shaft being provided at an intermediate point with an angular seat and a contiguous shoulder, a crank arm having an eye fitting upon said seat and held in contact with said shoulder by a nut threaded upon the shaft, and an operating rod connected to the crank, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

RUFUS G. BURTON.

Witnesses:

J. C. DORST,

A. W. ROBBINS.