No. 681,824. Patented Sept. 3, 1901.

C. F. GAY.

SWITCH MECHANISM.

(Application filed Dec. 11, 1900.)

(No Model.)

Fig. 1.

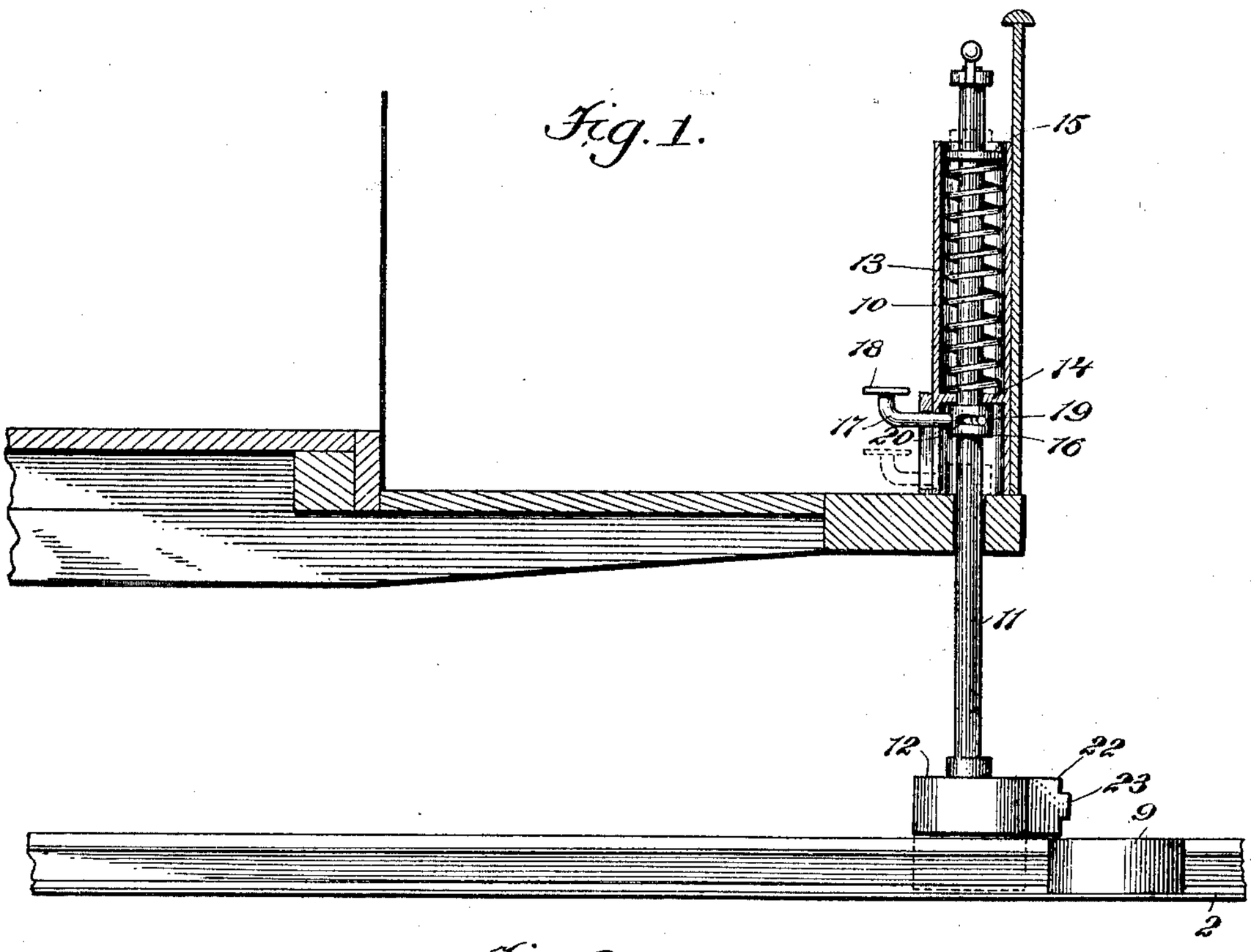
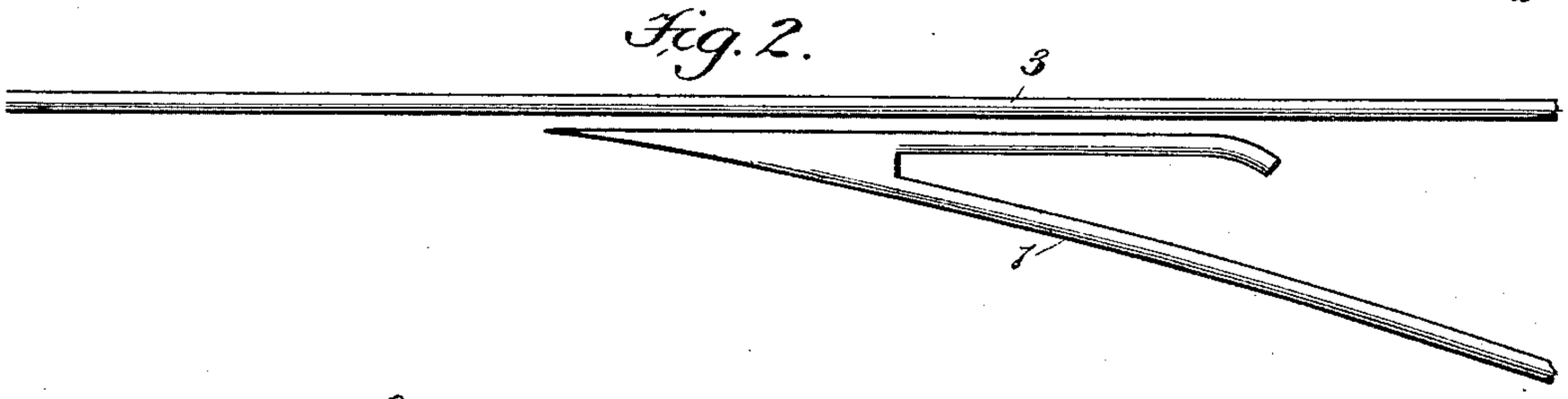


Fig. 2.



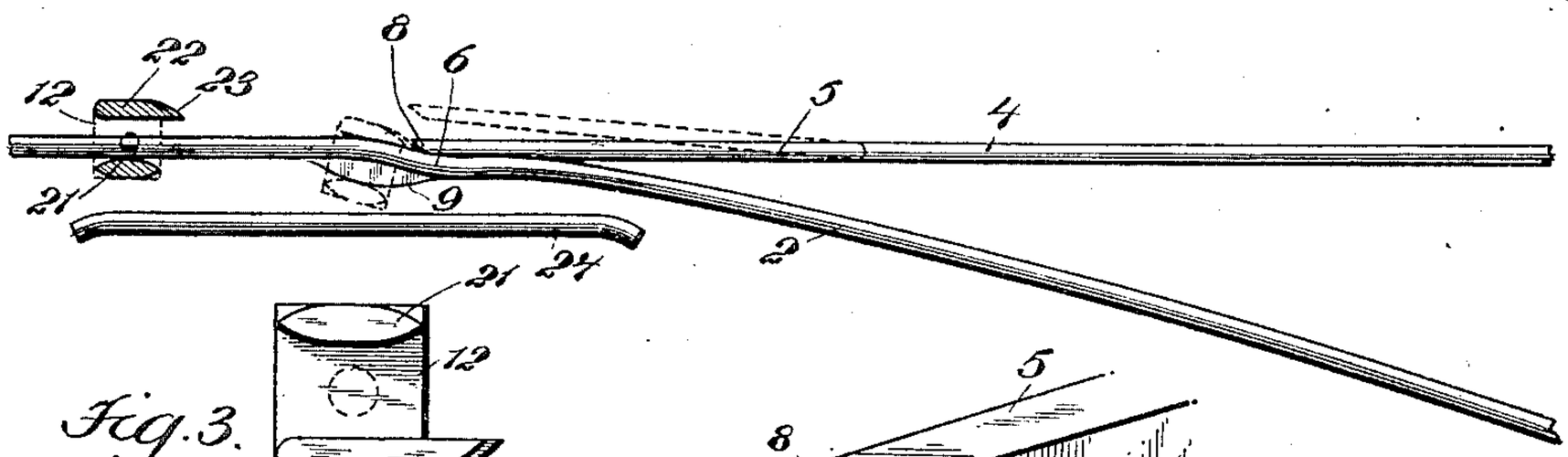
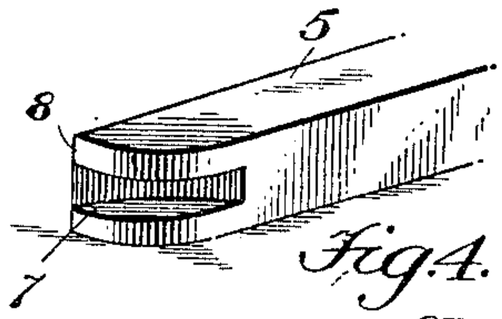


Fig. 3.

Fig. 4.



WITNESSES:

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UNITED STATES PATENT OFFICE.

CHARLES F. GAY, OF SPOKANE, WASHINGTON.

SWITCH MECHANISM.

SPECIFICATION forming part of Letters Patent No. 681,824, dated September 3, 1901.

Application filed December 11, 1900. Serial No. 39,537. (No model.)

To all whom it may concern:

Be it known that I, CHARLES F. GAY, a citizen of the United States, and a resident of Spokane, in the county of Spokane and State of Washington, have invented a new and Improved Switch Mechanism, of which the following is a full, clear, and exact description.

This invention relates to improvements in mechanism for operating switch-tongues of railways; and the object is to provide a mechanism of this character that shall be simple in construction, not liable to get out of order, and positive in its action.

I will describe a switch mechanism embodying my invention and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a sectional elevation of a portion of a car-platform, showing a switch mechanism embodying my invention as applied thereto. Fig. 2 is a plan view showing the switch-tongue arranged in a track. Fig. 3 is a bottom view of a shifting block, and Fig. 4 is a perspective view illustrating one end of the switch-tongue.

Referring to the drawings, 1 2 designate the main rails of a track, and 3 4 the switch-rails. Having swinging connection with the rail 4 is a switch-tongue 5, which is adapted to engage at its free end with a depressed portion 6 of the rail 2. At its free end this tongue is provided with a recess 7 to slightly embrace the inner side of the rail 2; but its end is curved inward, as at 8, so that a shifting block may be engaged between said end and the inner side of the rail, as will be hereinafter described. At the outer side of the rail 2, just forward of the depression 6, is an outward projection 9, which is curved from its center toward the rail at each end. Movable in a boxing 10 on the car-platform is a rod 11, which supports a shifting block 12 on its lower end. This rod, with the block, is normally moved upward by means of a spring 13, engaging at its lower end on the upper side of a partition 14 in the casing and at its upper end with a collar 15 on the rod. Below the partition 14 the rod passes through a collar 16, from which an arm 17 extends outward through a slot in the lower portion of the casing and has secured to its end a footplate 18. The rod 11 is designed to have a slight rotary movement with relation to the collar 16. Therefore I provide the said rod with a pin 19, engaging in a circumferentially-disposed slot 20 in said collar. The shifting block 12 has on its lower side at one edge a shoe 21, tapered from its center to its ends, and at the opposite edge is a tongue-shifting shoe 22, curved at its operating end, which is projected beyond the edge of the block 12, and on this curved end is a reduced tongue portion 23, designed to engage in the recess 7 at the end of the tongue 5.

In operation the motoman, by placing his foot on the plate 18, moves the rod 11 downward, and consequently moves the block 12 downward, so that the shoe 21 is on the outer side of the rail, while the shoe 22 is on the inner side thereof. As the car approaches the switch-tongue the shoe 21, by engaging with the projection 9, will swing the block on a horizontal plane, so that the tongue 23 of the shoe 22 will engage underneath the end or in the recess 7 of the switch-tongue, and as the car continues to move the switch-tongue will be moved to the position indicated in dotted lines in Fig. 2, and this motion will be made positive by the shoe 21 engaging with an outer guard-rail 24, which will tend to move the block 12 back to its normal position. Of course by releasing the rod its spring will move the same upward.

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

1. In a switch mechanism, a main rail, a switch-tongue connecting with a switch-rail, a projection on the outer side of the main rail near its point of connection with the free end of the tongue, a shifting block carried by a car, a part on said block for engaging between the main rail and the free end of the switch-tongue, and a part on said block for engaging with the projection to turn the block, substantially as specified.

2. In a switch mechanism, a main rail, a switch-tongue connecting with the switch-rail, a projection on the outer side of the main rail near its point of connection with the free end of the tongue, a rod vertically movable through

the platform of a car, a shifting block on the lower end of said rod, a shoe on one side of said block for engaging between the main rail and the switch-tongue, and a curved shoe on the opposite side of said block for engaging with said projection, substantially as specified.

3. In a switch mechanism, a main rail, a switch-tongue connecting with a switch-rail, a curved projection on the outer side of the main rail near its point of connection with the free end of the tongue, a shifting block carried by a car, a shoe on the lower side of said block for engaging between the switch-tongue and the main rail, a shoe on the lower side of said block and opposite the first-named shoe, the last-named shoe being adapted for engagement with the curved projection, and a guard-rail with which said last-named shoe is designed to engage, substantially as specified.

4. In a switch mechanism, a main rail, a switch-tongue pivoted to the switch-rail, the said switch-tongue being curved and recessed at its free end, a shifting block carried by the car and having a projecting shoe for engaging in said recess, a curved block or projection on the outer side of the main rail, and a shoe on the shifting block for engaging with said projection, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES F. GAY.

Witnesses:
H. R. MANN,
FRED FLINT.