No. 612,273. Patented Oct. 11, 1898.

P. S. QUIGLEY.

SWITCH.

(Application filed Mar. 23, 1898.)

(No Model.)

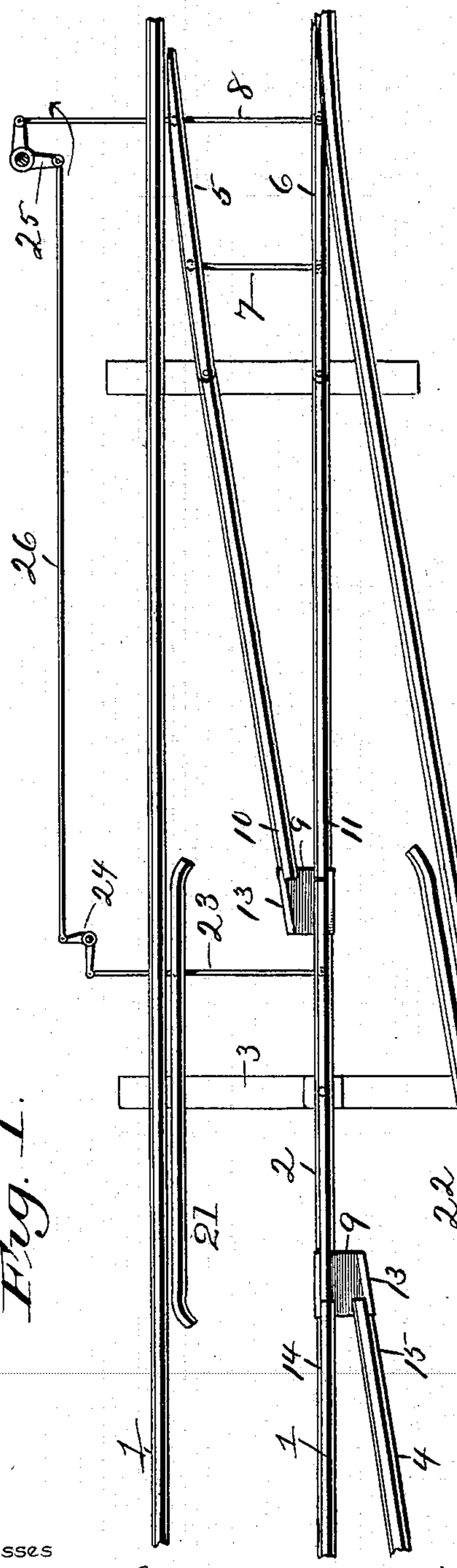

Fig. 1.

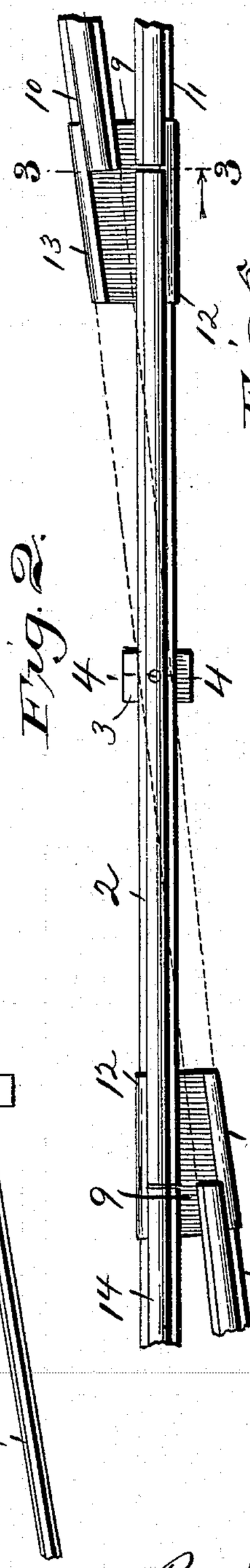

Fig. 2.

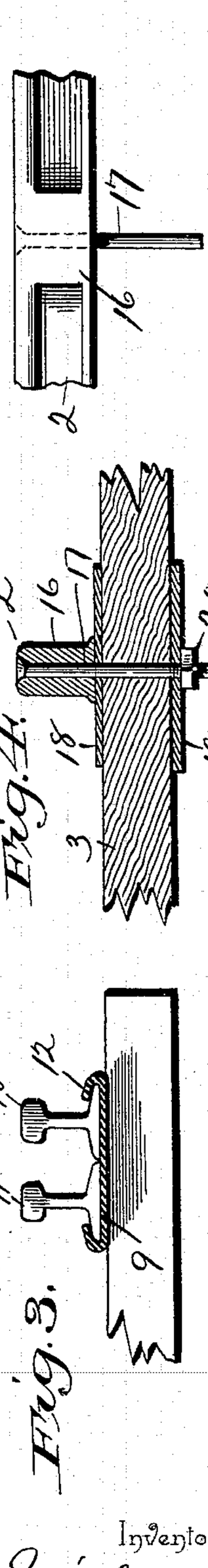

Fig. 5.

Fig. 4.

Fig. 3.

Witnesses
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UNITED STATES PATENT OFFICE.

PATRICK S. QUIGLEY, OF BRIMSON, MINNESOTA.

SWITCH.

SPECIFICATION forming part of Letters Patent No. 612,273, dated October 11, 1898.

Application filed March 23, 1898. Serial No. 674,893. (No model.)

To all whom it may concern:

Be it known that I, PATRICK S. QUIGLEY, a citizen of the United States, residing at Brimson, in the county of St. Louis and State of Minnesota, have invented certain new and useful Improvements in Switches; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has relation to railway-switches; and it consists in the novel construction and arrangement of its parts, as hereinafter described.

The object of the invention is to provide a railway-switch which avoids the necessity of using a frog. The switch is provided with a pivoted rail, which is adapted to be thrown when it is intended to run the train from the main line to the switch. A suitable mechanism is provided for operating the switch mechanism.

In the accompanying drawings, Figure 1 is a top plan view of the switch. Fig. 2 is a top plan view of the pivoted rail and its connections. Fig. 3 is a transverse sectional view cut on the line 3 3 of Fig. 2. Fig. 4 is a transverse sectional view cut on the line 4 4 of Fig. 2, and Fig. 5 is a side elevation of the central portion of the pivoted rail.

In the accompanying drawings, 1 represents the main-line track. The rail 2 forms a portion of the track 1 when the switch is closed, as shown in Fig. 1. The said rail 2 is pivoted at its center to the tie 3, as will be hereinafter explained.

4 4 represent the rails of the side track, the switch-bar 5 being pivotally secured at one end to the end of the inner rail of the side track, and the pivoted switch-bar 6 forming a portion of the main track. The switch-bars 5 and 6 are connected together by the cross-rods 7 and 8, the said rods being pivotally attached to the said switch-bars. The switch-bars 5 and 6 are of the ordinary construction, and no invention is claimed on these features.

A plate 9 is located at the ends of the rails 10 and 11, the said plate having at each edge an upturned flange 12, the said flanges being adapted to pass over the flanges of the rails, as shown in Fig. 3, thus holding the ends of the rails 10 and 11 in their proper positions with relation to each other. The edge 13 of of the said plate 9 converges, as shown in Fig. 1. A plate similar to that just described is also located at the ends of the rails 14 and 15. The pivoted rail 2 is provided at its center with the thickened portion 16—that is, the said rail 2 is of the same dimension from top to bottom. The said rail 2 is provided at its center with a perpendicular perforation through which passes the bolt 17, said bolt being countersunk at its upper end in the rail. The bolt 17 passes through the tie 3, the plate 18 being interposed between the bottom of the rail 2 and the upper face of the tie, as shown in Fig. 4. The lower end of the bolt 17 passes through a suitable perforation in the plate 19, said plate 19 being located against the under face of the tie 3, the bolt 17 being held in position by a suitable nut or tap 20.

The object of providing the thickened section 16 is to strengthen the rail 2 at the point where the perforation receiving the bolt passes through the said rail. The ends of the rail 2 rest upon the upper face of the plates 9 9, as shown in Fig. 1, and the ends of the said rail 2 are adapted to come opposite the ends of the rails 11 and 14 and 10 and 15, respectively, as the switch is closed and opened. The ordinary guard-rail 21 is located on the main track opposite the pivotal point of the rail 2. When the rail 2 is thrown in either of its alternate positions, the edges of the flanges of said rail pass under the flanges 12 of the plates 9 9, thus insuring the alinement of the said pivoted rail with the fixed rails of the switch and track.

The end of the rod 23 is pivotally attached to the pivoted rail 2. The opposite end of the said rod is pivotally attached to the rocker 24, said rocker 24 being pivotally fixed to any suitable support. The outer end of the rod 8 is pivotally attached to the rocker 25. The said rocker 25 is also pivotally attached to any suitable point, and, in fact, the said rocker may be fixed to a post, the said post being adapted to revolve as the switch is operated by any suitable and ordinary semaphore mechanism. A rod 26 is pivotally attached at its ends and connects the rockers 24 and 25.

The switch is operated as follows: The normal position of the mechanism is that shown in Fig. 1. When it is desired to open the switch, the rocker 25 is turned or partially revolved in the direction as indicated by the arrow in Fig. 1. This will cause the bar 8 to move longitudinally toward the said rocker, and thus the outer end of the bar 5 is brought in contact with the side of the rail of the main track. At the same time the outer end of the bar 6 is brought away from the side of the rail at the point of junction between the main track and the switch-track. At the same time the rod 26 is moved longitudinally toward the rocker 25, and the rocker 24 is thus turned or partially revolved and the rod 23 is moved toward the said rocker 24. This causes the ends of the pivoted rail 2 to come directly opposite the ends of the rails 10 and 15, and thus the switch is opened. To close the switch, the operation above described is reversed and the act is accomplished.

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

In combination with a main and switch tracks a pivoted rail adapted to form a portion of the main or switch track, said rail having at its central section a thickened portion and a perforation passing through the rail at the thickened portion, a bolt passing through said perforation and pivotally connecting the rail to the tie.

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

PATRICK S. QUIGLEY.

Witnesses:
JOHN DWAN,
DENNIS DWAN.