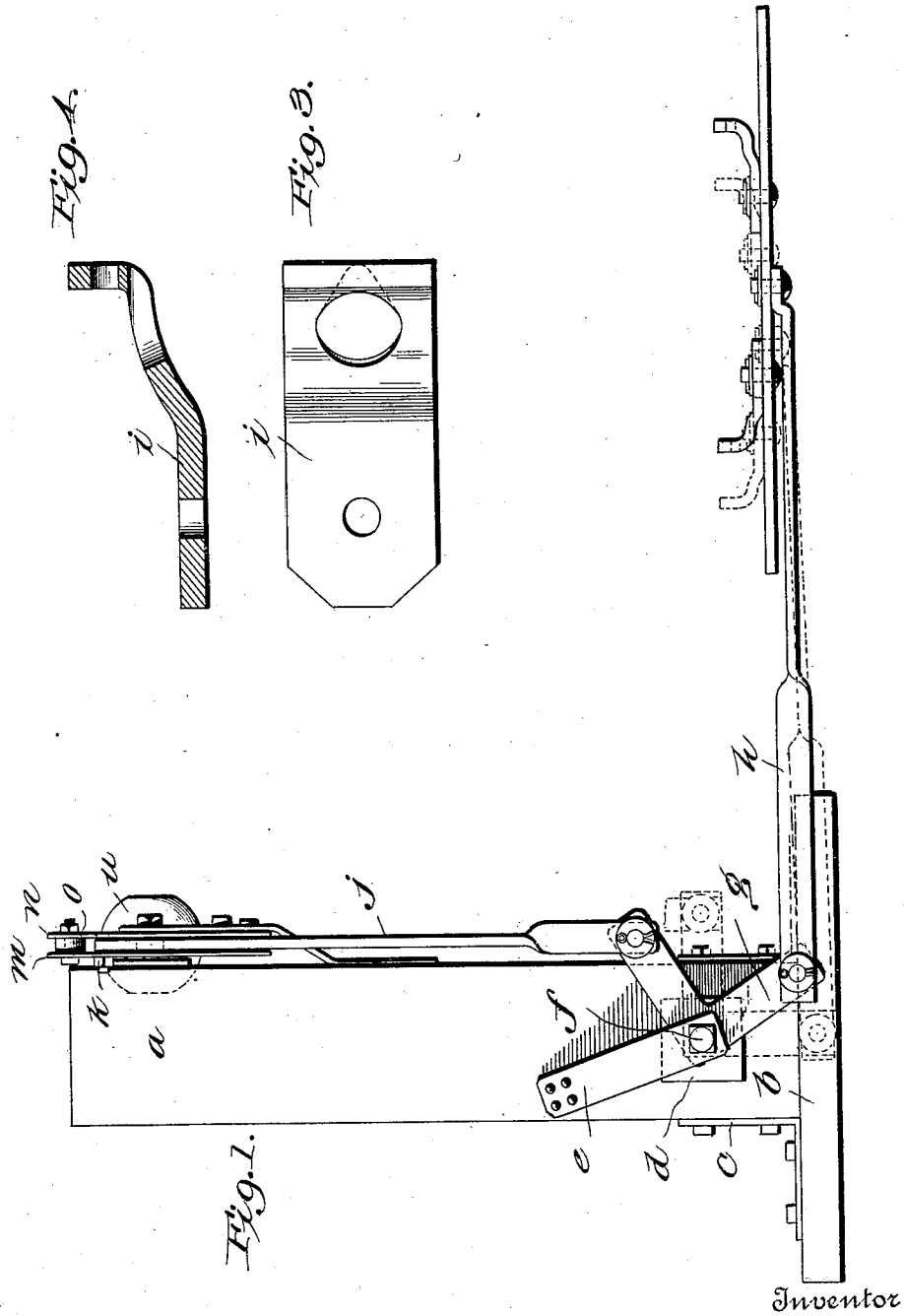
P. H. PETERSEN.

SWITCH THROWING DEVICE.

APPLICATION FILED SEPT. 19, 1908.

917,652. Patented Apr. 6, 1909.

2 SHEETS—SHEET 1.



Witnesses
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2 SHEETS—SHEET 2.

Fig. 6.

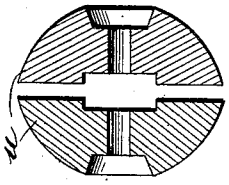
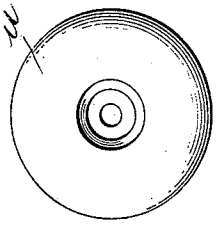


Fig. 5.



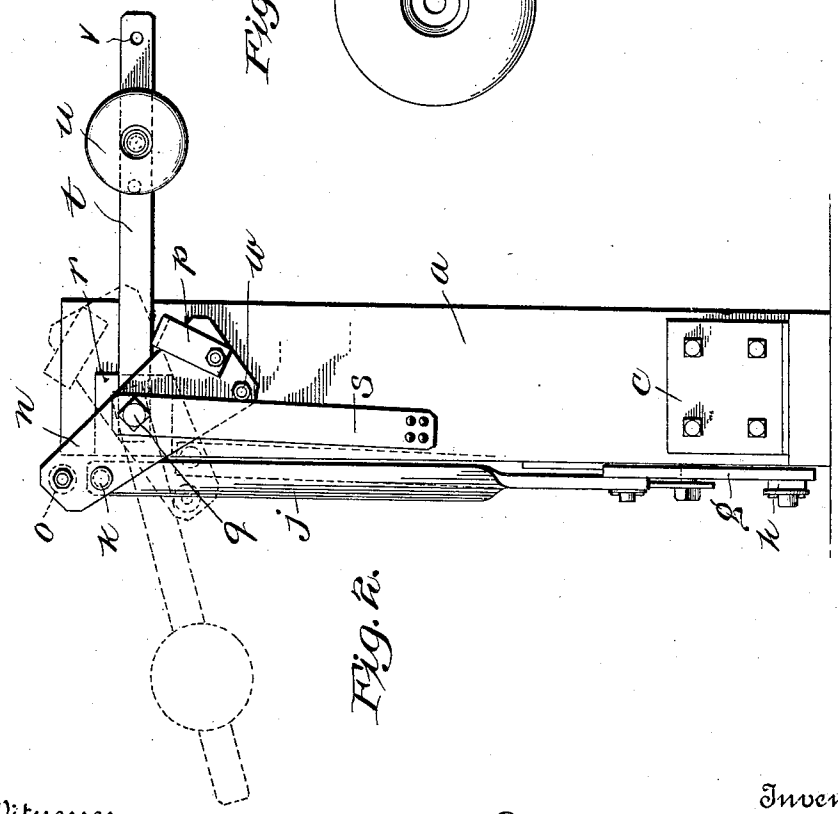


Fig. 2.

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UNITED STATES PATENT OFFICE.

PETER HANSEN PETERSEN, OF LEAD, SOUTH DAKOTA.

SWITCH-THROWING DEVICE.

No. 917,652. Specification of Letters Patent. Patented April 6, 1909.

Application filed September 19, 1908. Serial No. 453,870.

To all whom it may concern:

Be it known that I, PETER HANSEN PETERSEN, a citizen of the United States, residing at Lead city, in the county of Lawrence and State of South Dakota, have invented certain new and useful Improvements in Switch-Throwing Devices; 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 relates to improvements in switch throwing devices, and the object of my invention is to provide a simple, gravity operated switch throw which can be set by the motorman or engine driver without leaving his cab.

My invention is specially applicable to mine and mill tracks where trains are hauled by motors, or where motor trains and hand trucks use the same tracks, but it is not restricted to this use.

With this object in view, my invention consists in the construction and combinations of parts as hereinafter described and claimed.

In the accompanying drawings—Figure 1 is a side view of my improved switch throwing device. Fig. 2 is a side view thereof, taken at right angles to Fig. 1. Fig. 3 is a top view of one of the bars adapted to engage one of the switch rails. Fig. 4 is a cross section thereof. Fig. 5 is a side view of the operating weight, and Fig. 6 is a cross section thereof.

a represents the stand, usually of wood, on which the operating parts are mounted and secured to the brace *b* by means of angle plates *c*. Near the lower end of the stand *a* is mounted a plate *d*, provided with a brace *e*, in which plate is mounted a pivot *f*, carrying the bell crank lever *g*. The lower arm of this lever has pivotally attached to it an arm *h*, carrying curved plates *i*, which are adapted to engage the switch rails. The upper arm of the bell crank lever *g* has pivotally attached to it a bent bar *j*, which is secured by a bolt *k* to the parallel plates *m* and *n*. These plates are approximately triangular in shape and carry near their upper end a roller *o*, which acts as a stop for the gravity lever. The plate *n* has also bolted to it near its lower edge a bent metal stop *p*.

The plates *m* and *n* are bolted together, and both are supported on a bolt *q*, passing through a plate *r* on the stand *a*, which plate is provided with a supporting bracket *s*.

The plates *m* and *n* are fastened to the bolt *q*, and on this bolt is loosely mounted one end of a gravity lever *t*, which carries an adjustable weight *u*, which consists of two similar shaped, but oppositely arranged halves, as shown in Fig. 6, and united by a bolt which passes through said weight and one of the holes *v* in the lever *t*. The brace *s* limits the movement of the plates *m* and *n* in one direction, one of the bolts connecting these plates striking said brace, and it limits it in the other direction by means of the bar *j* striking thereagainst.

The operation is as follows:—The motorman or engine driver comes up to the switch and, if necessary, throws the lever arm *t* up, so that it rests against the roller *o*. If the motor or engine does not prevent, the weight on the lever arm *t* will then move the parts from the position shown in full lines on Fig. 2 to that shown in dotted lines, thus throwing the switch. Similarly, to reverse the switch, the arm *t* is lifted from the position shown in dotted lines, until it strikes against the stop *p*, when the weight will carry the parts back to the position shown in full lines in Fig. 2, if there is nothing to prevent. When trailing a switch, the points will always, no matter for which track they are set, adjust themselves after the last car has passed over them. Thus no injury to the switch or derailment of the train can take place. The motorman or engine driver can throw the lever to set the switch for either track while the motor is passing over the points. This does away with the necessity for a switchman or extra trainman. When coming up to a facing switch, should the switch be placed wrong, the motor runs up to the throw, adjusts it to suit, and then moves off the points, whereupon the weighted lever automatically adjusts the switch to the new and desired position, whereupon the motor goes through the switch in the desired direction. Either a trailing or a facing switch can thus be operated by the motorman, without having to move from his seat. The chances of a misplaced switch are considerably reduced, as the switch points will always adjust themselves should a train or single car run through the switch.

From the description shown, it will be noticed that out of six possible lines of travel between three points, one being the switch itself, and the other two being on the main and side tracks, respectively, it is only neces-

sary to operate the switch throw twice, as in other positions no operation by the motorman or engine driver will be needed.

I claim:—

1. In a switch throwing device, the combination of a stand, a plate provided with stops pivotally mounted thereon, a weighted lever pivotally mounted on said stand, connections between said plate and the switch rails, and means carried by said stand to limit the movement of said plate and said lever in either direction, substantially as described.

2. In a switch throwing device, the combination of a stand, a bracket secured thereto, a bolt mounted in said bracket and stand, a plate provided with stops, mounted on said bolt, a weighted lever pivotally mounted on said bolt, and connections between said plate and the switch rails, to operate the latter, substantially as described.

3. In a switch throwing device, the combination of a stand, a bracket secured thereto, a bolt passing through said bracket and into said stand, a pair of parallel plates pivotally mounted on said bolt, said plates being provided with stops, a weighted lever pivotally mounted on said bolt between said plates, and connections between said plates and the switch rails, to operate the latter, substantially as described.

4. In a switch throwing device, the combination of a stand, a bracket secured thereto, a bolt passing through said bracket and into said stand, a pair of plates pivotally mounted on said bolt and secured together, said plates being provided with stops, a weighted lever pivotally mounted on said bolt between said plates and adapted to engage the stops on said plates, and connections between said plates and the switch rails for operating the latter, substantially as described.

5. In a switch throwing device, the combination of a supporting stand, a bent bracket secured thereto, a bolt passing through the upper end of said bracket and into said stand, a pair of parallel plates mounted on said bolt and adapted to revolve thereon, said plates being bolted together and provided with stops, a pivoted lever mounted on said bolt between said plates and adapted to engage said stops, a weight adjustably secured to said lever, and connections between said plates and the switch rails for operating the latter, substantially as described.

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

PETER HANSEN PETERSEN.

Witnesses:
ALEX. J. M. ROSS,
ARTHUR M. PETERSEN.