

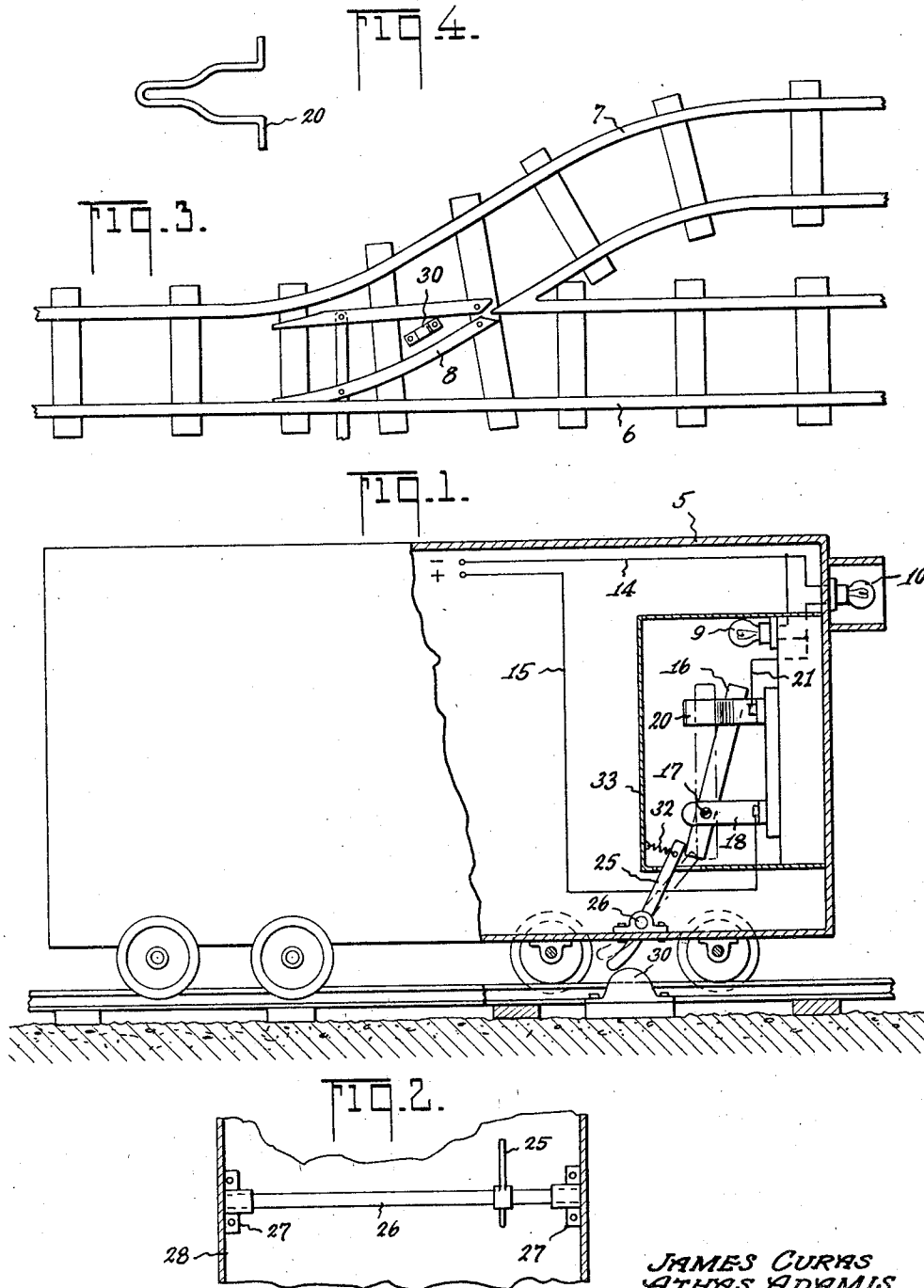
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AUTOMATIC TRAIN SIGNAL

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## UNITED STATES PATENT OFFICE

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## AUTOMATIC TRAIN SIGNAL

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This invention relates to automatic train signals and it has for one of its objects a provision of a signal of the character mentioned adapted to indicate when a train is on the wrong track.

Other objects of the invention will be appreciated when reading the following specification.

The invention will be fully and comprehensively understood from a consideration of the following detailed description when read in connection with the accompanying drawing which forms part of the application, with the understanding, however, that the improvement is capable of extended application and is not confined to the exact showing of the drawing nor to the precise construction described and, therefore, such changes and modifications may be made therefrom as do not affect the spirit of the invention nor exceed the scope thereof as expressed in the appended claim.

In the drawing:

Fig. 1 is a side elevation partly in section of an electric engine embodying our invention;

Fig. 2 is a plan view of a rock shaft and tripping mechanism, fragmentarily shown, carried by the shaft;

Fig. 3 is a plan view of tracks; and

Fig. 4 is a plan view of part of the switch.

Referring to the drawing for a more detailed description thereof, the numeral 5 indicates an electric engine although it is to be understood that the engine may be a steam locomotive or an engine of another kind. The engine 5, which may be drawing a train of cars, should travel from left to right on the straight track 6, shown in Fig. 3, but instead, it runs off onto the wrong track 7, due to the switch 8 being set wrong. The automatic signal means of our invention is adapted to indicate that the engine is on the wrong track. The mentioned signalling means are herein shown as comprising electric lamps 9 and 10, the former being visible to the engineer running the engine 5 and the latter to another engineer driving an engine on track 7, in the direction opposite to the direction of engine 5. The mentioned electric lamps may

be lighted by electrical energy flowing through conductors 14 and 15 and through a switch 16 which is pivotally mounted at 17 to a bracket 18. The upper portion of the switch 16 is adapted to be rocked in a switch member 20, shown in a plan view in Fig. 4, said switch member 20 being connected to an electrical conductor 21 which is connected to the lamps 9 and 10, the bracket 18 being connected to the electrical conductor 15. In Fig. 1, the switch 16 is shown in full lines as being in the open position and is shown in dotted lines as being in the closed or thrown-in position. It will readily be understood that when the mentioned switch is in the closed position, the lighting circuit is closed and the mentioned lamps will be lighted to indicate that the engine is on the wrong track. The switch 16 is thrown from open to closed position by a tripping lever 25, fixedly mounted on a rock shaft 26, said rock shaft being journaled in brackets 27 secured to the side members 28 of the engine. When the engine begins to run on the wrong track, which for example is the track 7, the lower end of the lever 25 comes up against the tripping member 30, mounted in the road-bed between the rails of the track 7. The lever 25 is moved by coming up against the tripping means 30 in a manner to throw the mentioned lever against the lower end of the switch 16 to throw the switch to closed position. A spring 32 is attached to the upper end portion of the lever 25 and to a wall 33 to normally hold the lever in a position to be tripped. It will readily be appreciated from the foregoing description that our invention provides a simple and effective automatic means for indicating that an engine is on the wrong track.

What is claimed as new is:

The combination with an engine of electrically energized signal means for indicating that the engine is on the wrong track, and a control for said signal means comprising a switch having a rockably mounted blade for shifting it to open and closed positions, said switch being in circuit with the signal means, a rock shaft journaled on the engine, a lever fixed to the rock shaft and having a

pendent arm for engaging a track obstruction, the remote end of the lever being disposed in overlapping relation with an extension of the switch blade, so that the rocking of the lever will effect movement of the switch blade, and a spring tensioned between the lever and a fixed point to retract the blade engaging end of the lever and dispose the obstruction engaging end in the path of said obstruction.

In testimony whereof we hereby affix our signatures.

JAMES CURAS.  
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