

H. GUST.

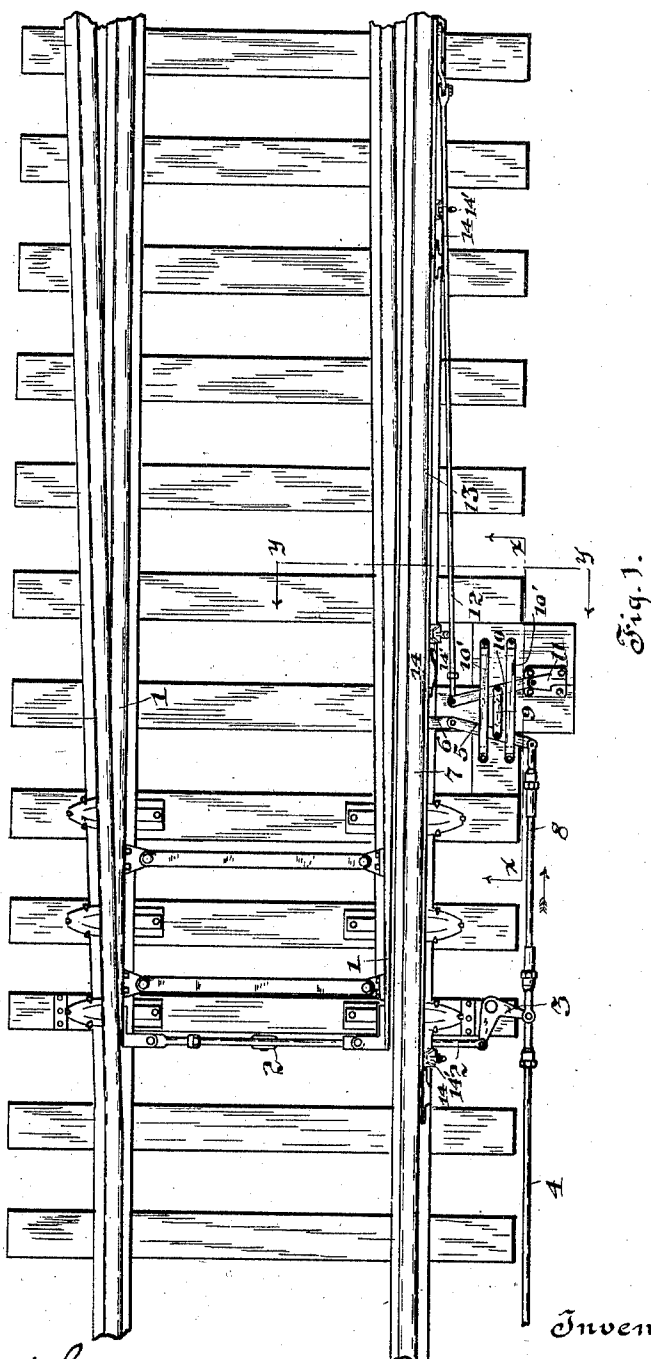
MEANS FOR OPERATING DETECTOR BARS FOR RAILWAY SWITCHES.

APPLICATION FILED SEPT. 30, 1909.

967,369.

Patented Aug. 16, 1910.

2 SHEETS—SHEET 1.



Witnesses:

W. E. Smith
B. G. Richards

Inventor:

Herman Gust,
By Joshua R. H. Lark
his Attorney.

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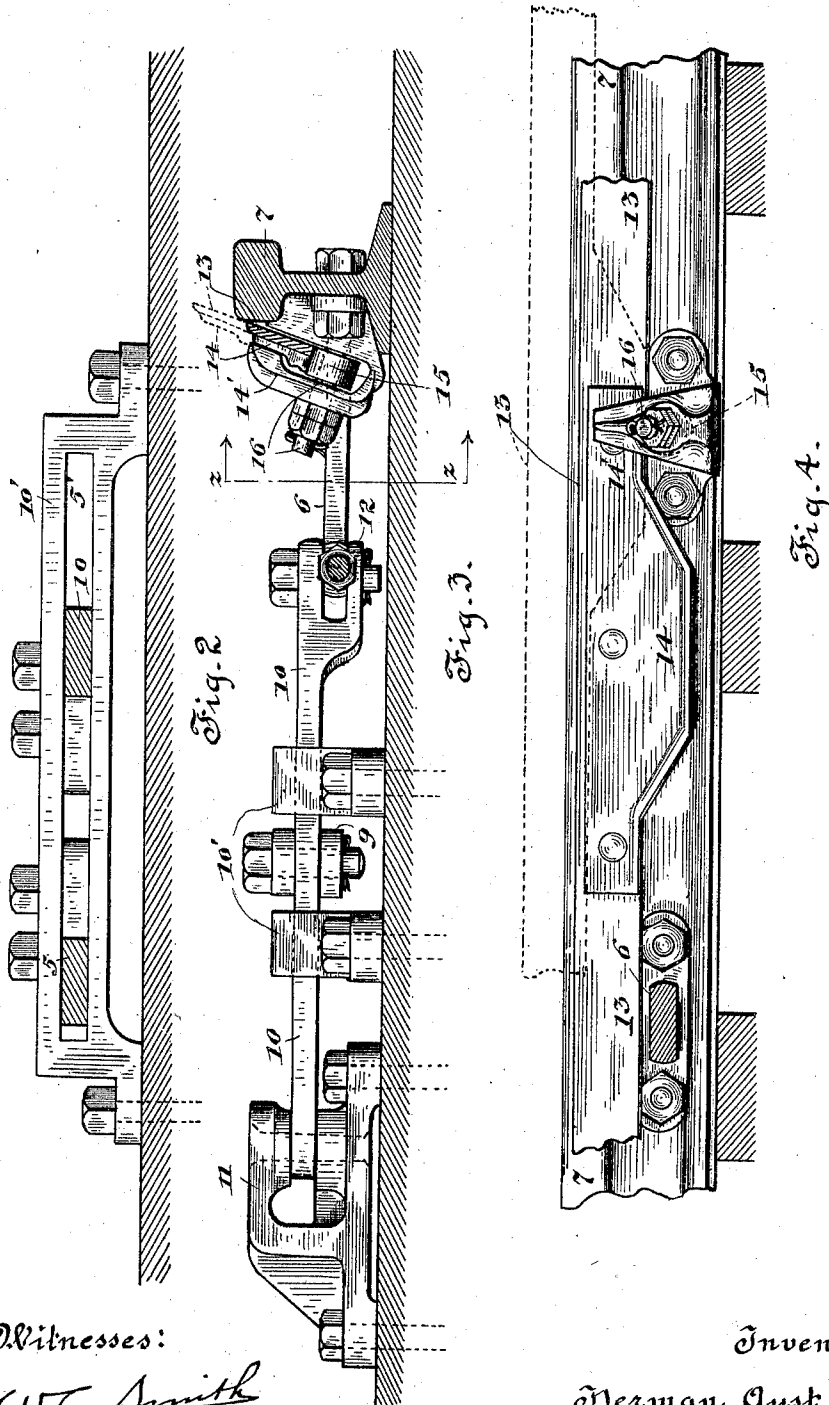
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UNITED STATES PATENT OFFICE.

HERMAN GUST, OF JOLIET, ILLINOIS.

MEANS FOR OPERATING DETECTOR-BARS FOR RAILWAY-SWITCHES.

967,369.

Specification of Letters Patent.

Patented Aug. 16, 1910.

Application filed September 30, 1909. Serial No. 520,395.

To all whom it may concern:

Be it known that I, HERMAN GUST, a citizen of the United States, residing at Joliet, county of Will, and State of Illinois, have invented certain new and useful Improvements in Means for Operating Detector-Bars for Railway-Switches, of which the following is a specification.

My invention relates to improved means for operating detector bars for railway switches. In order to prevent a switch from being thrown or operated while a train is passing thereover, and thus derailing the train, a detector bar is mounted along side of a track rail and so mounted and connected with the switch that operation of the switch elevates the detector bar above the top of the track rail. When a train is passing over the track rail the tread of the wheels thereof will prevent elevation of the detector bar and thus prevent operation of said switch. It has been found, however, in practice that the track rails move or creep longitudinally, due to expansions and contractions from change in temperature or to the effect of trains passing thereover. The effect of longitudinal movement of the track in one direction, if the detector bar is held stationary, is to elevate the detector bar above the top of the track rail where it will be struck and damaged by the wheels of passing trains.

The object of my invention is to provide means for operating the detector bars which will not be open to this objection and which will permit of longitudinal movement of a track rail without elevation of the detector bar.

My invention consists in the combination and arrangement of parts hereinafter described and claimed.

My invention will be best understood by reference to the accompanying drawings forming a part of this specification, and in which,

Figure 1 is a top plan view of a switch and detector bar provided with operating means embodying my invention, Fig. 2, an enlarged section on line $x-x$ of Fig. 1, Fig. 3, an enlarged section on line $y-y$ of Fig. 1, and Fig. 4, a section on line $z-z$ of Fig. 3.

In the construction illustrated in the drawings the switch tongues 1 are operated by means of a rod 2 connected to one arm of the bell crank lever 3 to the other arm of

which is connected the operating rod 4. Operating rod 4 leads to a tower at a distance and is connected with suitable levers therein by means of which the operator has control of the switch tongue 1. So much of the construction is all old and well known and the details thereof form no part of my invention, the same being applicable to any form of switch operating mechanism.

The preferred form of operating mechanism for the detector bar comprises a lever 5 pivoted to a bracket 6 secured to the web of the track rail 7. The outer end of lever 5 is connected by means of a rod 8 with the outer arm of bell crank lever 3 as shown in Fig. 1. A link 9 connects lever 5 with a similar lever 10 pivoted at its outer end to a stationary support 11 and at its inner end to the detector bar link 12. Levers 5 and 10 are mounted in suitable guide brackets 10' having elongated slots 5' adapted to receive and guide said levers. Link 12 is connected at its other end to detector bar 13 which carries cam plates 14 secured thereto at intervals and projecting below the lower edge of said detector bar. The detector bar is mounted in a series of brackets 14' secured to the web of rail 7 adjacent to cam plates 14. Each of the brackets 14' contains a bearing roller 15 mounted on a stud 16 therein and adapted to support detector bar 13. By this arrangement it will be seen that as detector bar 13 is moved longitudinally in one direction cam plates 14 riding upon rollers 15 will elevate the detector bar above the top of rail 7 as indicated by dotted lines in Fig. 3, and that said detector bar will be given such longitudinal movement when switch tongues 1 are thrown over from the position shown in Fig. 1. Thus it will be seen that in case a train was passing over said switch from left to right in Fig. 1 it will be impossible for the operator to throw said switch, owing to the fact that the tread of the wheels of said train would prevent elevation of said detector bar which is necessary in the operation of said switch tongues. However, in case the track rail 7 should move from right to left in Fig. 1 from any cause levers 5 and 10 will automatically adjust themselves to the new position of the detector bar without causing elevation of the same. This result is facilitated by employing levers of equal length and connected centrally, and ample room for the ordinary

manipulations of said levers is provided for by arranging the same at opposite and equal inclinations to the track rail.

While I have illustrated and described the preferred construction for carrying my invention into effect this is capable of variation or modification without departing from the spirit of my invention. I, therefore, do not wish to be limited to the exact details of construction set forth but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

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

1. In a device of the class described, the combination with a switch and detector bar therefor, of an operative connection between said switch and detector bar, comprising a lever connected with said detector bar and with a stationary support; a lever pivotally connected with a track rail and with a switch connecting member; and a link connecting said levers, substantially as described.

2. In a device of the class described, the combination with a switch and detector bar therefor, of an operative connection between said switch and detector bar, comprising a lever connected at its inner end with said detector bar and at its outer end with a stationary support; a lever pivotally connected at its inner end with a track rail and at its outer end with a switch connecting member; and a link connecting said levers centrally, substantially as described.

3. In a device of the class described, the combination with a switch and a detector bar therefor; of an operative connection between said switch and detector bar, comprising a lever having a link connection between its inner end and said detector bar and a pivotal connection between its outer end and a stationary support, the said lever being arranged at an inclination to the track; a lever pivotally connected at its inner end to a sup-

port attached to a track rail and at its outer end with a switch connecting member, said lever being arranged at an inclination to the track; and a link connecting said levers centrally, substantially as described.

4. In a device of the class described, the combination with a switch and a detector bar therefor, of an operative connection between said switch and detector bar, comprising a lever having a link connection between its inner end and said detector bar and a pivotal connection between its outer end and a stationary support, said lever being arranged at an inclination to the track; a lever pivotally connected at its inner end to a support attached to a track rail and at its outer end with a switch connecting member, said lever being arranged at an inclination to the track equal and opposite to that of said first mentioned lever; and a link connecting said levers centrally, substantially as described.

5. In a device of the class described, the combination with a switch and a detector bar therefor, of an operative connection between said switch and detector bar, comprising a lever having a link connection between its inner end and said detector bar and a pivotal connection between its outer end and a stationary support, said lever being arranged at an inclination to the track; a lever pivotally connected at its inner end to a support attached to a track rail and at its outer end with a switch connecting member, said lever being arranged at an inclination to the track equal and opposite to that of said first mentioned lever; slotted guide brackets for said levers; and a link connecting said levers centrally, substantially as described.

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

HERMAN GUST.

Witnesses:

JOSHUA R. H. POTTS,
JANET E. HOGAN.