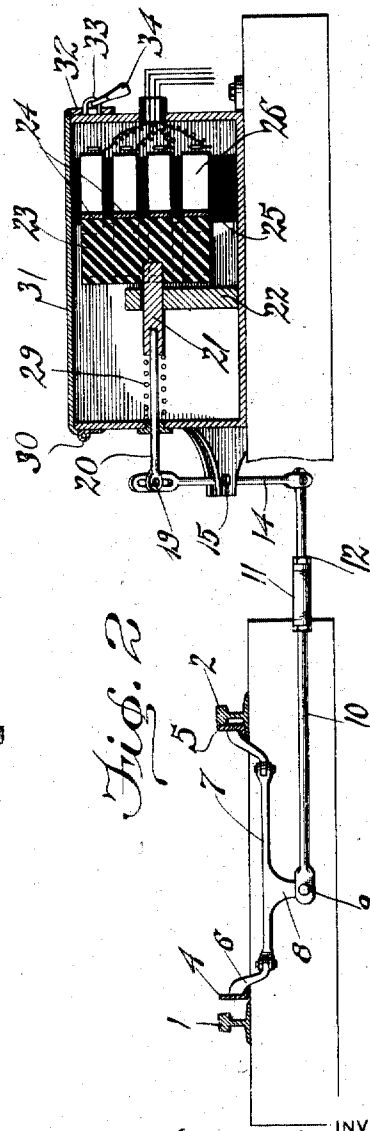
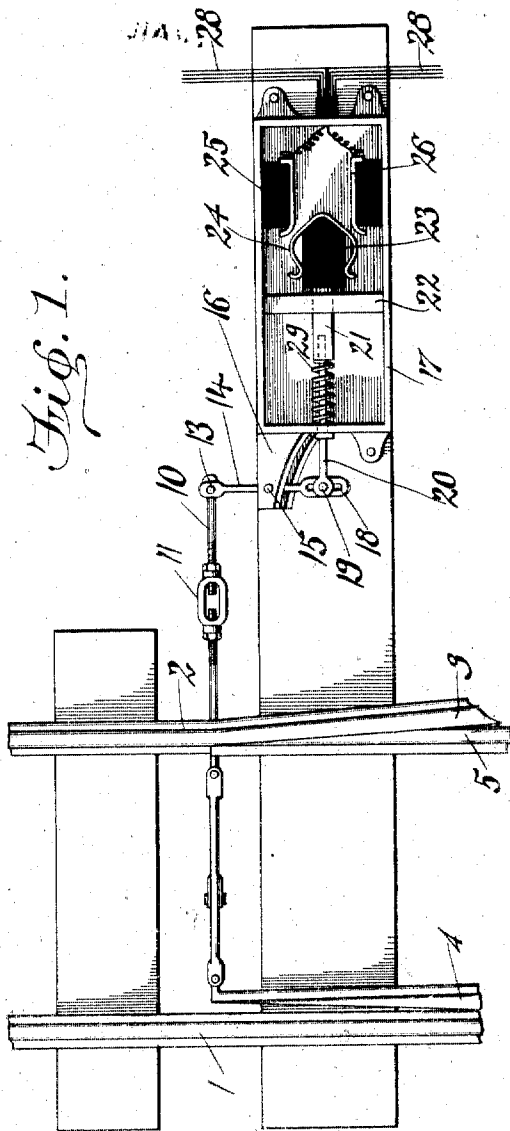


1,279,095.

Patented Sept. 17, 1918.
2 SHEETS—SHEET 1.



WITNESSES

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2 SHEETS—SHEET 2.

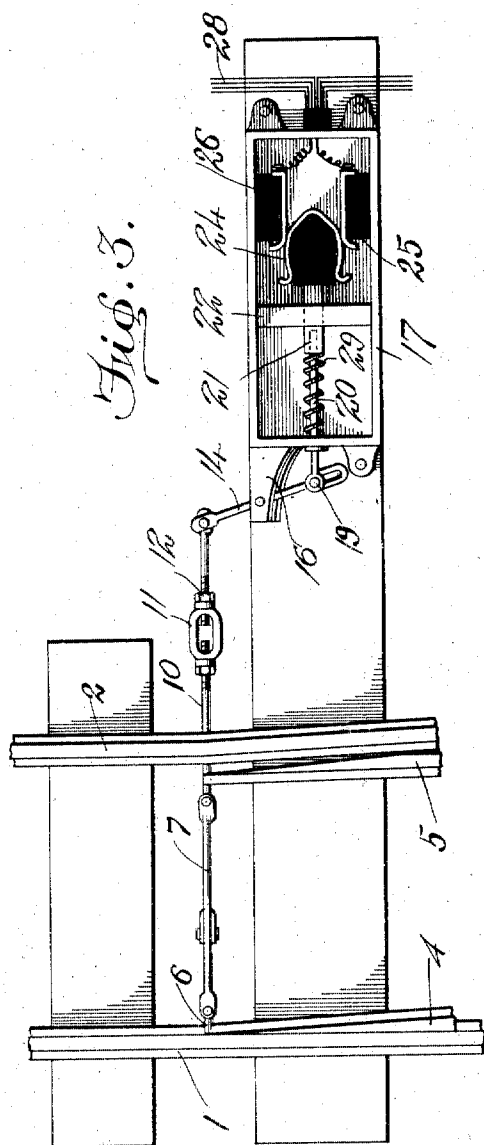


Fig. 5.

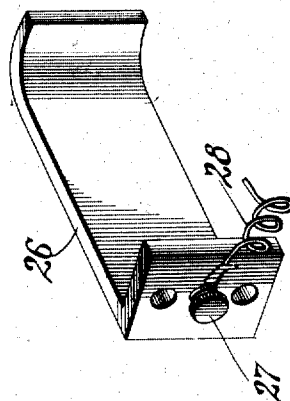
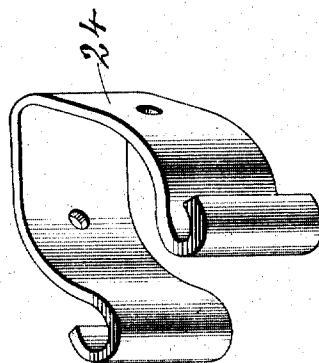


Fig. 4.



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SAFETY APPLIANCE.

1,279,095.

Specification of Letters Patent.

Patented Sept. 17, 1918.

Application filed February 16, 1916. Serial No. 78,763.

To all whom it may concern:

Be it known that I, EDGAR T. EAVES, a citizen of the United States, residing at Rawlins, in the county of Carbon and State of Wyoming, have invented certain new and useful Improvements in Safety Appliances, of which the following is a specification.

This invention relates to safety appliances, and has particular reference to a switch controlled safety appliance for railroads.

The principal object of the invention is to provide means which will act automatically to operate a block signal or semaphore to a position denoting danger upon breakage or positioning of the switch points to side track a train from the main line.

Another object of the invention is to provide, in a device of this character, adjustable means whereby the degree of movement necessary between the switch points and the main line to operate the danger signal may be varied.

The invention consists in the provision of switch operating circuit closing means for an electrically operated danger signal, and it is, therefore, another object of the invention to provide a novel form of sliding contact circuit closer, so that operation of the device will insure of a clean positive contact being formed, whereby the circuit will be positively closed.

A further object of the invention is to provide a device of this character which is extremely simple in construction, clearly reliable and efficient in use, which is easy to install and which will not be affected by the elements.

With the foregoing and other objects in view, the invention consists in the novel features of construction, combination and arrangement of parts, as will be hereinafter more fully described, illustrated in the accompanying drawings and claimed.

In the drawings:

Figure 1 is a plan view showing the device in an operative position, the cover of the housing inclosing the circuit closer being removed and the switch points being shown in a position to close the main line.

Fig. 2 is a vertical section view.

Fig. 3 is a view similar to Fig. 1, but showing the switch points in a position to deflect a train from the main line onto a siding.

Fig. 4 is a detail perspective of one of the contact members, and,

Fig. 5 is a detail perspective of another of the contact members.

Referring to the drawings by numerals, wherein is illustrated the preferred embodiment of my invention, 1 and 2 designate the main line rails of a railroad, one of which is deflected, as at 3, to provide one rail of a side track. The usual switch points 4 and 5 are provided which are pivotally mounted in the usual manner so as to be moved to provide a continuous passage over the main line or over the siding.

These switch points are adapted to be operated in any well known or preferred manner from any desired source.

Formed or secured to the points 4 and 5 upon their inner faces are lugs 6 which extend slightly below the lower faces of the rails. These lugs have pivotally connected thereto a link 7 which is provided with an offset 8 to which is secured, as at 9, the outer end of a rod 10. This rod 10 is formed in two sections which are connected by means of a turn buckle 11, nuts 12 being threaded upon each of the sections for engagement with the turn buckle to lock the same against movement.

Pivotally mounted, as at 13, to the inner end of the rod 10 is a link 14 which is in turn pivotally mounted as at 15 between the arms 16 carried upon one end of a housing 17. The link 14 is pivoted intermediate its ends and at its end opposite to the pivot 13, it is provided with an elongated slot 18 which receives a pin 19 upon the outer end of a rod 20. This rod 20 extends through an opening in one end of the housing 17 and has rigidly mounted upon its inner end a polygonally shaped guide member 21 which passes through a similarly shaped opening in a supporting member 22 carried by the housing.

The guide member 21 extends beyond the supporting member 22 and has secured thereon a block 23 of insulating material which is elongated and has secured to its outer faces a plurality of yieldable contact members 24. These contact members are formed from a conductive material and are of substantially arrow shape, the sides thereof being extended in spaced relation to the sides of the block 23 so that they may be depressed.

Secured to the side walls of the housing are a pair of insulating blocks 25 which are arranged in alignment and have secured upon their adjacent faces, in any desired

5 manner, a plurality of spaced contact members 26 which are arranged in alinement with the contact members 24 upon the block 23. The space between the contact members 26 is slightly less than the distance between 10 the outer edges of the contact members 24 when these members are in a normal position, that is to say, when the arms thereof are in an outwardly sprung position, as illustrated in Fig. 1 of the drawings.

15 Thumb nuts 27 are threaded upon the contact members 26 and these thumb nuts are adapted to bind the ends of conducting wires 28 to the said members, the wires extending from each of these members being 20 gathered together and passed through an insulated opening in one end of the housing. The two sets of wires 28 extending from the two sets of contact members 26 may have any considerable source of current inter- 25 posed therein, and these wires are adapted to be connected to any suitable electrically operated means for moving a danger signal or semaphore.

Arranged about the rod 20 and disposed 30 between one end wall of the housing and the guide member 21 is an expansion helical spring 29 which normally exerts a tension to move the block 23 toward the blocks 25.

Hingedly mounted upon one end of the 35 housing 17, as at 30, is a cover 31 for the upper open edge of the housing, the said cover being provided with a hasp 32 for engagement with a staple 33 whereby a lock 34 may be utilized to prevent access of un- 40 authorized persons to the interior of the housing. This cover together with the housing also serves to exclude dust, dirt, snow, rain or the like from the operating parts of the device and thereby insures of the 45 same being in a position for efficient operation at all times.

From the structure described it will be noted that should the switch points be moved to a position as shown in Fig. 3 of the drawing, the block 23 will be moved toward the 50 blocks 25 the contact members 24 and 26 thereby being brought into engagement. Such engagement between these contact members will close the circuit of the danger 55 signal operating means and cause these means to be moved to a position to inform the operator of an approaching train that the main line track is not clear. Thus, the danger signal will be operated upon each 60 legitimate operation of the switch. Should the switch operating means become broken or disabled in any manner, the spring 29 will move the switch points to an open position and also move the contact members 65 24 into engagement with the contact members 26 so that a person will be instantly in-

formed upon glancing at the danger signal that the switch is open or broken.

Oftentimes due to the wear of the switch operating means the switch points do not 70 contact firmly with the rails when the switch is swung to either an open or closed position. In order to provide means whereby the danger signal will be displayed when 75 the switch points extend beyond a predetermined distance in spaced relation to the rails the turn buckle 11 has been provided. By loosening the nuts 12 this turn buckle may be adjusted so that the movement of the 80 block 23 toward the blocks 25 necessary to cause the contact members to engage may be varied. It will thus be seen that by adjusting this turn buckle the contact members 24 may be caused to engage with the contact 85 members 26 upon the switch points being moved any predetermined distance away from the rail.

From the foregoing description taken in connection with the accompanying drawings, it is thought that the construction and 90 operation of the improved safety device may be clearly understood, and while I have herein shown and described one specific embodiment of my invention, I do not wish to be limited thereby, except for such limitations 95 as the claim may import.

I claim:

A device as described, including a casing, insulating blocks secured to opposite sides 100 of said casing and opposing one another, a plurality of spaced contacts secured to each of said blocks, a rod mounted to slide through one end of said casing, an insulating block carried by the inner end of said rod, a plurality of yieldable spaced contacts 105 carried by said block and adapted for interposition between said first mentioned blocks for engagement with the contacts arranged thereon, each of the contacts secured to the movable bar consisting of a 110 single piece of metal bent upon itself to provide substantially arrow shaped contacts and having the opposite arms thereof bowed outwardly in opposite directions so that said arms will be slightly compressed when inserted between the contacts on the station- 115 ary block to be frictionally retained therebetween, and means for actuating the said rod for engaging and disengaging said movable and stationary contacts. 120

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

EDGAR T. EAVES.

Witnesses:

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JOHN CONTOS,
M. E. MILLER.