

H. F. DYER.
SAFETY DEVICE FOR RAILWAYS.
APPLICATION FILED MAY 25, 1910.

989,135.

Patented Apr. 11, 1911.

FIG. 1.

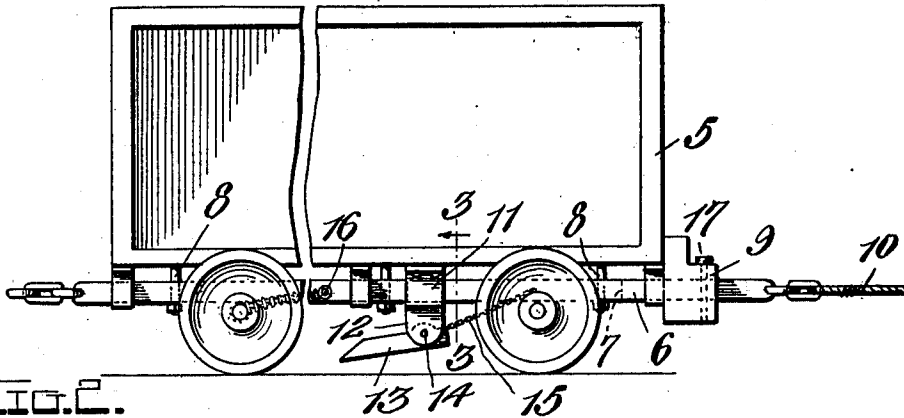


FIG. 2.

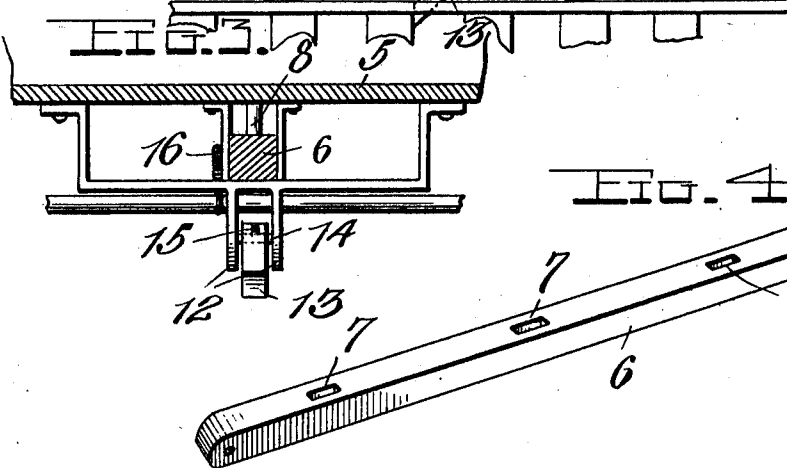
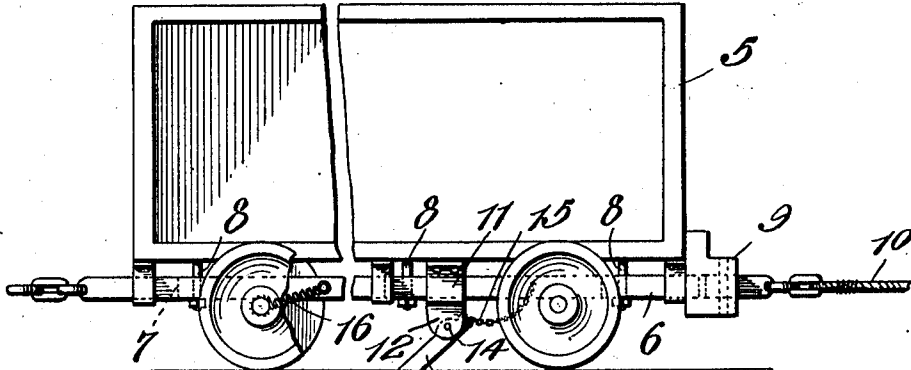
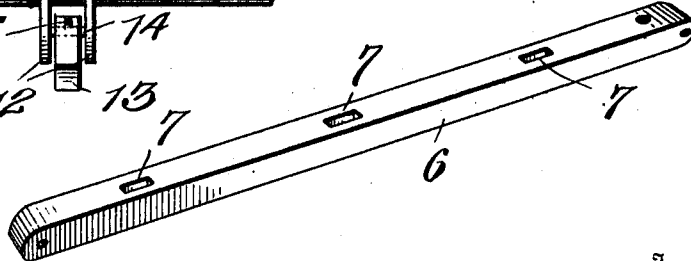


FIG. 4.



Witnesses

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SAFETY DEVICE FOR RAILWAYS.

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To all whom it may concern:

Be it known that I, HOWARD F. DYER, a citizen of the United States, residing at Speedwell, in the county of Claiborne and State of Tennessee, have invented certain new and useful Improvements in Safety Devices for Railways, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to improvements in safety devices for mining cars and the like and has for its object to provide a simple and efficient device by means of which the car may be stopped or derailed when upon an incline in the event that the hoisting cable becomes broken.

Another object is to provide an automatically operative device of the above character which is operatively positioned by the release of the tension on the cable and upon retrograde movement of the car on an incline to engage with the cross ties whereby the car is stopped or derailed.

With these and other objects in view, the invention consists of the novel construction, combination and arrangement of parts, hereinafter fully described and claimed, and illustrated in the accompanying drawings in which—

Figure 1 is a side elevation of a car provided with my improved safety device; Fig. 2 is a similar view illustrating the operation of the device upon the breaking or the release of tension on the cable; Fig. 3 is a section taken on the line 3—3 on Fig. 1; and Fig. 4 is a detail perspective view of the draw bar.

Referring more particularly to the drawings 5 indicates a car body, and beneath said body the usual draw bar 6 is arranged, to which another car is adapted to be coupled.

In the application of my invention, I provide the draw bar 6 with a plurality of longitudinal slots 7. Depending rods or bolts 8 secured to the bottom of the car extend into these longitudinal slots and limit the sliding movement of said draw bar. One end of the draw bar 6 extends through the head or bumper 9 secured to one end of the car. To this forward end of the draw bar 6, the hoisting cable 10 is adapted to be attached in any approved manner.

A plate 11 is secured centrally to the bottom of the car and is formed with the spaced ears 12 between which the tie engaging arm 13 is pivotally mounted at one of its ends

upon a pin 14 which connects said ears. One end of a short length of chain 15 is attached to the pivoted end of said arm and the other end thereof is attached to one side of the draw bar 6. A coil spring 16 is also connected at one end to said bar and has its other end secured to the wheel axle or to the bottom of the car. This spring normally tends to position the draw bar beneath the car as shown in Fig. 2 wherein it will be noted the free end of the arm 13 is engaged with the rail supporting ties upon which the inclined track rails are arranged and secured.

When the cable 10 has been attached to the forward end of the bar 6 and the car is started up the inclined rails, the spring 16 is expanded and placed under tension while the sliding movement of the bar causes the chain 15 to draw the arm 13 to a substantially horizontal position beneath the bottom of the car out of engagement with the rail ties. It will be obvious that should the cable for any reason break, the spring 16 will contract and draw the bar 6 to its normal position. The same action takes place on each of the cars and occurs simultaneously. The engagement of the free ends of the arms 13 with the rail ties immediately stops the descent of the cars and in case they are loaded, the strain upon the arms will cause the same to raise or lift the cars from the rails thus derailling the same and preventing the possibility of accidents which might occur if the cars continued down the incline. If the cars are empty the tie engaging arms 13 would only check their descent and stop them without derailling the same. A new cable could then be connected and the upward movement of the car train continued.

In order to lock the draw bar 6 so as to hold the arm 13 in its raised position when the car is on a level stretch of track, a locking bolt 17 is inserted through an opening in the forward end of said bar and through alined openings in the bumper head 9 whereby the spring 16 is held in its expanded condition, and the engagement of the arm 13 with the rail ties thus rendered impossible.

From the foregoing it is believed that the construction and operation of my improved safety appliance will be readily understood. The device is particularly adapted for use upon coal cars and the like which are hauled up inclined tracks by means of a cable and

is designed to instantly stop the descent of the cars and thus prevent probable serious accidents.

5 The device is extremely simple in its construction, very positive in its actuation and highly efficient in practical use.

10 While I have specifically shown and described the preferred embodiment of my invention, it will be understood that the same is susceptible of many minor modifications without departing from the essential feature or sacrificing any of the advantages thereof.

Having thus described the invention what is claimed is:

15 1. The combination with a car, of a longitudinally slidable draw bar, means normally holding said bar yieldingly against sliding movement, means for limiting the movement of the bar, a pivotally mounted gravity arm
20 mounted beneath the car adapted to engage the rail ties, a connection between said arm and bar whereby said arm is controlled by the movement of the bar, and means for locking said bar against sliding movement
25 and holding the arm in a raised position,

substantially as and for the purpose set forth.

2. The combination with a car, of a longitudinal sliding draw bar mounted beneath said car, said bar being adapted to have a
30 hoisting cable attached to one end thereof, the tension of said hoisting cable being adapted to slide the bar, said bar having spaced slots therein, depending rods secured to the bottom of the car disposed in the slots
35 of said bar to limit its sliding movement, a spring normally holding said bar yieldingly against said sliding movement, and a gravity arm pivotally mounted beneath said car and connected to the bar, the sliding movement
40 of said bar being adapted to raise and lower the said arm, substantially as and for the purpose set forth.

In testimony whereof I hereunto affix my signature in the presence of two witnesses. 45

HOWARD F. DYER.

Witnesses:

ALICE ROACH,
ZORA ROACH.