

W. S. JACKSON.
SAFETY DEVICE FOR RAILWAY CARS.
APPLICATION FILED JUNE 16, 1910.

970,231.

Patented Sept. 13, 1910.

Fig. 1.

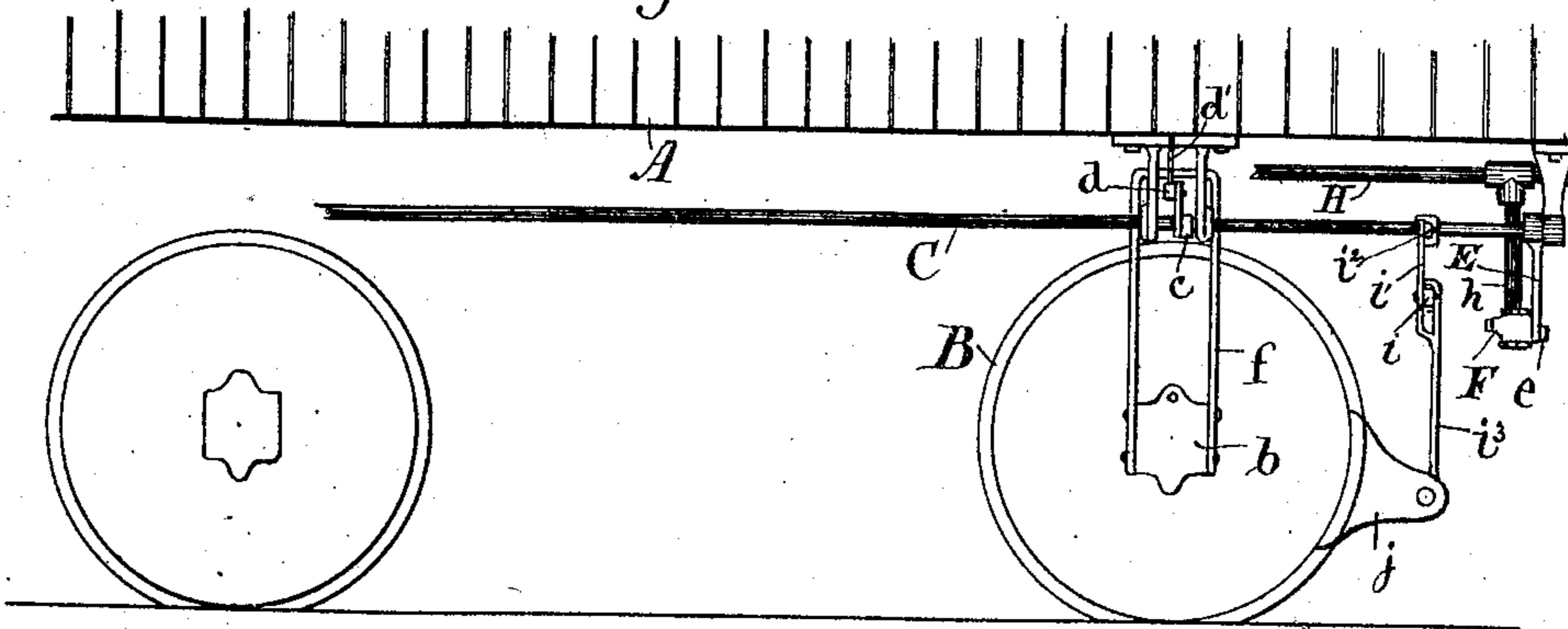
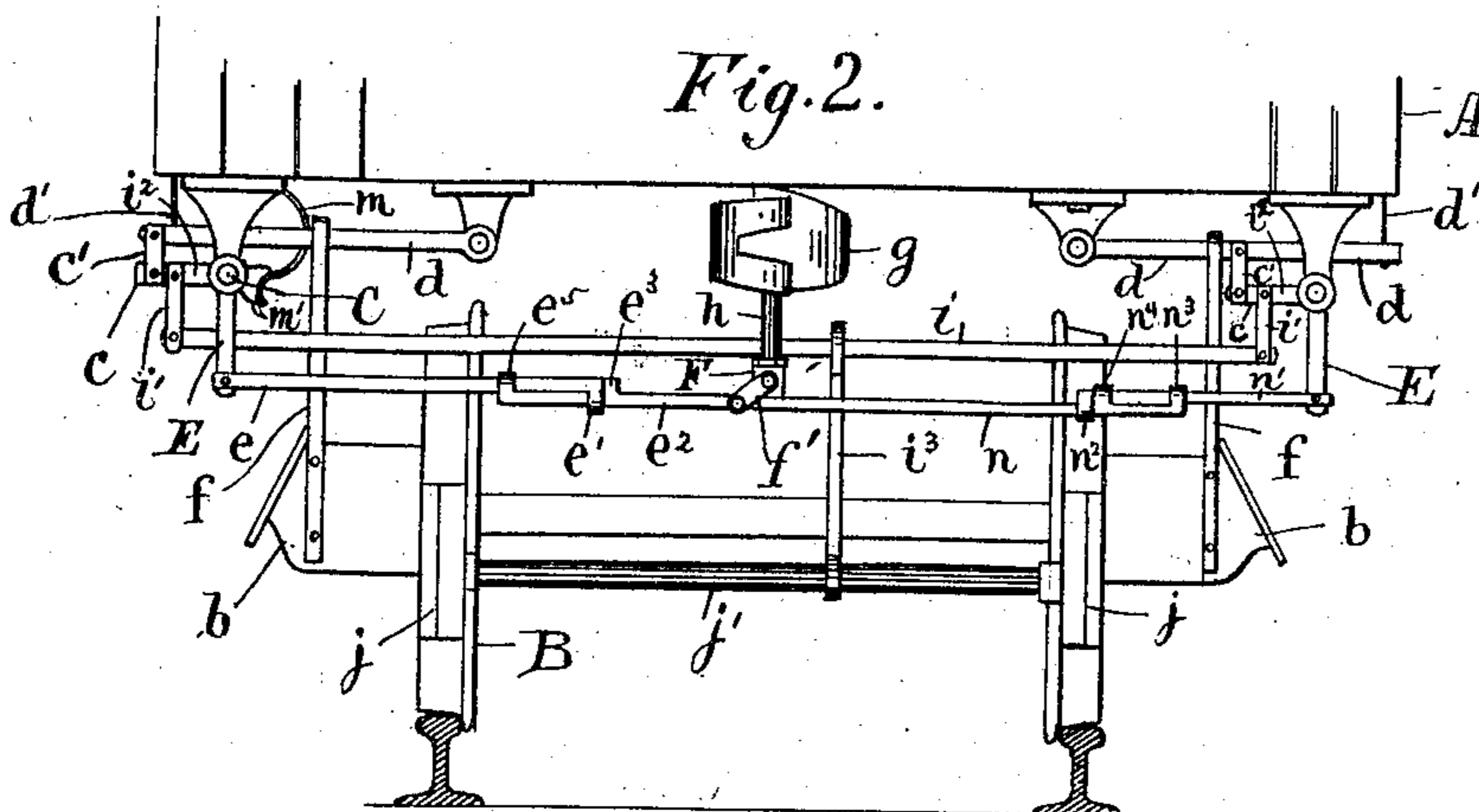


Fig. 2.



Witnesses:
E. M. Hinckley.
C. W. Dennis.

Inventor:
Walter S. Jackson
by S. W. Bates
Atty.

UNITED STATES PATENT OFFICE.

WALTER S. JACKSON, OF WATERVILLE, MAINE.

SAFETY DEVICE FOR RAILWAY-CARS.

970,231.

Specification of Letters Patent. Patented Sept. 13, 1910.

Application filed June 16, 1910. Serial No. 567,172.

To all whom it may concern:

Be it known that I, WALTER S. JACKSON, a citizen of the United States of America, and a resident of Waterville, in the county of Kennebec, State of Maine, have invented certain new and useful Improvements in Safety Devices for Railway-Cars, of which the following is a specification.

My invention relates to a safety device for railway cars and particularly to certain improvements in the device shown in my Letters Patent No. 926,334, dated June 29, 1909.

In my patented device, a shaft was journaled beneath the car and longitudinally thereof and a relief valve on the train pipe was opened by the rotation of this shaft. The shaft was rotated and the train pipe opened in case of the derailment of the truck by an arm which projected out from the truck and was arranged to strike a bar which ran longitudinally of the car below the truck frame extending practically the whole length of the truck. This bar was in such a position that it was liable to be accidentally struck, thus stopping the train when not necessary.

According to my improvement I effect the rotation of the shaft by a transverse horizontal member located above the truck and in a position where it will not be accidentally struck.

Other features of improvement are covered in this application as fully set forth in the following specification.

I illustrate my invention by means of the accompanying drawing in which—

Figure 1 is a side elevation of a car equipped with my improved safety device, and Fig. 2 is an end elevation of the same.

In the drawing, A represents the car body, B the wheels, *b* the journal boxes, C the shaft, H the train pipe and *h* the branch on which is the relief valve F. These parts are all common to my prior patent and require no further description.

For the purpose of rotating the shaft C when the truck drops down by reason of derailment or otherwise, I provide a transverse horizontal member which is depressed by an upright secured to the truck.

As here shown, I make use of a horizontal member or lever *d* pivoted to a hanger beneath the car and extending transversely of the length of the car directly above each

wheel. Coöperating with the lever *d* is an upright shown as an inverted U-shaped strap *f* secured to the journal box and embracing the lever *d*.

Considering the left hand side of Fig. 2, the lever *d* is connected at its end with an arm *e* on the shaft C by means of a link *e'* so that when the lever *d* is depressed, the shaft C will be rotated.

On the other side of the car the lever *d* is connected with an arm *e* on the shaft C by means of a link *e'* but the connection is made on the inside of the hanger which supports the shaft so that the depression of the lever *d* will tend to turn the shaft in the same direction as the shaft C on the other side of the car is turned. Since the motion of each shaft is transferred to the valve F, this arrangement is necessary. The motion of each shaft C is transferred to the handle *f'* of the relief valve F by telescoping rods each of which operates independently of the opposite one.

On the left hand side (Fig. 2) the arm E depending from the shaft C is pivoted on the end of a rod *e* having a loop *e'* offset at its inner end and engaging the rod *e'*. The rod *e'* connects with the valve handle *f'* and has a loop *e''* embracing the rod *e*. A stop *e'''* on the rod *e'* abuts normally against end of the rod *e*. Thus when the rod *e* is forced inwardly it acts on the rod *e'* and throws the valve open but when the valve is opened from the opposite side, it simply elongates the telescoping rods *e*, *e'* without disturbing the adjustment of the safety devices on that side of the car. A similar arrangement on the right hand side of the car prevents the safety device being disturbed when the opposite side is operated.

A rod *n'* has a loop *n''* at its end embracing a rod *n* connected with the valve handle, this latter rod having a loop *n'''* embracing the rod *n'*. A stop on the rod *n* allows the connection to telescope inward while a pull outward has the effect of turning the valve handle.

It sometimes happens that the brakes and brake beams fall down and so cause damage to the car and I have provided safety means connected with my attachment for stopping the train when this occurs. For this purpose, I make use of a horizontal cross bar *z* which extends across the car from one side to the other. This bar is suspended by links

i' at its ends from arms i^2 on the shafts C. The bar i is depressed when the brake beam drops by an upright i^3 secured to the brake beams j and engaging the cross bar i . Thus
 5 when the brake beam falls, the bar i is depressed, the shafts C revolved and the relief valve opened.

The shaft C is prevented from accidentally turning by a spring m fitting a recess in a cam m' on the shaft C, (shown only
 10 on left side of Fig. 2) but such a connection is liable to become displaced and in order to hold the shaft more positively, I secure the transverse member d to the body
 15 of the car by an easily broken tie rod d' which breaks under an excessive strain in case of accident to the car. The liability of having the apparatus accidentally sprung is thus reduced to a minimum.

It will be seen that the lever d is directly
 20 over the shaft C and in case the journal breaks allowing the journal box to drop down, the truck will be held up by the strap f and lever d . When the truck is derailed
 25 and drops down on either side, the relief valve is opened as in the case of my original device, and also when the brake beam falls. The bar i is also located directly below the draw-bar and if this falls down it strikes
 30 the bar i and operates the device stopping the train.

The device as I have here shown it, can be cheaply applied to a car, it is out of the way of the other parts and is effective in pre-
 35 venting a large class of accidents.

It is evident that the upright may act directly on the arm c rather than on the lever d but I prefer to make use of a transverse member independent of the shaft.

40 I claim:—

1. In a safety device for railway cars the combination of a shaft journaled beneath the car body and longitudinally thereof, a relief valve on the train pipe, mechanism
 45 for opening said relief valve operated by the rotation of said shaft, an upright secured to the truck, a horizontal transverse member extending transversely to the length of the car and adapted to engage said upright and connecting mechanism for rotating the shaft by the depression of said horizontal transverse member.

2. In a safety device for railway cars, the combination of a shaft journaled beneath
 55 the car body and longitudinally thereof, a relief valve on the train pipe, mechanism for opening said relief valve operated by the rotation of said shaft, an upright secured to the truck, a horizontal transverse member pivoted to the car and extending transversely to the length of the car and adapted to engage said upright and connecting mechanism for rotating the shaft by the depression of said horizontal transverse member.

65 3. In a safety device for railway cars the

combination of a shaft journaled beneath the car body and longitudinally thereof, a relief valve on the train pipe, mechanism for opening said relief valve operated by the rotation of said shaft, an upright secured to the truck, a horizontal transverse member
 70 pivoted to the car and extending transversely to the length of the car and adapted to engage said upright, an arm on said shaft and a link connecting said arm with said horizontal transverse member.

4. In a safety device for railway cars, the combination of a shaft journaled beneath the car body and longitudinally thereof, a relief valve on the train pipe, mechanism
 80 for opening said relief valve operated by the rotation of said shaft, an upright secured to the truck, a horizontal transverse member pivoted to the car and extending transversely to the length of the car and adapted to en-
 85 gage said upright, mechanism for rotating the shaft operated by the depression of said horizontal transverse member and an easily broken tie rod for resisting the rotation of said shaft.

5. In a safety device for railway cars, the combination of a shaft journaled beneath the car body and longitudinally thereof, a relief valve on the train pipe, mechanism for opening said relief valve operated by the
 90 rotation of said shaft, an upright secured to the truck, a horizontal transverse member pivoted to the car and extending transversely to the length of the car and adapted to engage said upright, mechanism for rotating the shaft operated by the depression of said horizontal transverse member and an easily broken tie rod connecting said horizontal transverse member with the car body.

6. In a safety device for railway cars, the combination of a shaft journaled beneath the car body and longitudinally thereof, a relief valve on the train pipe, mechanism for opening the relief valve operated by the rotation of said shaft, a cross bar extending
 100 horizontally across the car adjacent to the truck, an upright connected with the brake and adapted to engage said cross bar, and means for rotating said shaft connected with and operated by the depression of said cross bar.

7. In a safety device for railway cars, the combination of a shaft journaled beneath the car body and longitudinally thereof, a relief valve on the train pipe, mechanism
 120 for opening the relief valve operated by the rotation of said shaft, a cross bar extending horizontally across the car adjacent to the truck, an upright connected with the brake and adapted to engage said cross bar, an arm on said shaft and a link connecting the end of said cross bar with said arm whereby the depression of said bar rotates said shaft.

8. In a safety device for railway cars the combination of a shaft journaled beneath
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the car body and longitudinally thereof, a relief valve on the train pipe, mechanism for opening the relief valve operated by the rotation of said shaft, a cross bar extending
5 horizontally across the car adjacent to the truck and beneath the draw bar, an upright connected with the brake and adapted to engage said cross bar, and means for rotating

said shaft connected with and operated by the depression of said cross bar.

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In witness whereof I have hereunto set my hand this 8th day of June, 1910.

WALTER S. JACKSON.

Witnesses:

H. D. BATES,
S. W. BATES.