

J. M. YOUNT.
WHEEL GUARD.

APPLICATION FILED JULY 26, 1909.

Patented May 24, 1910.

2 SHEETS—SHEET 1.

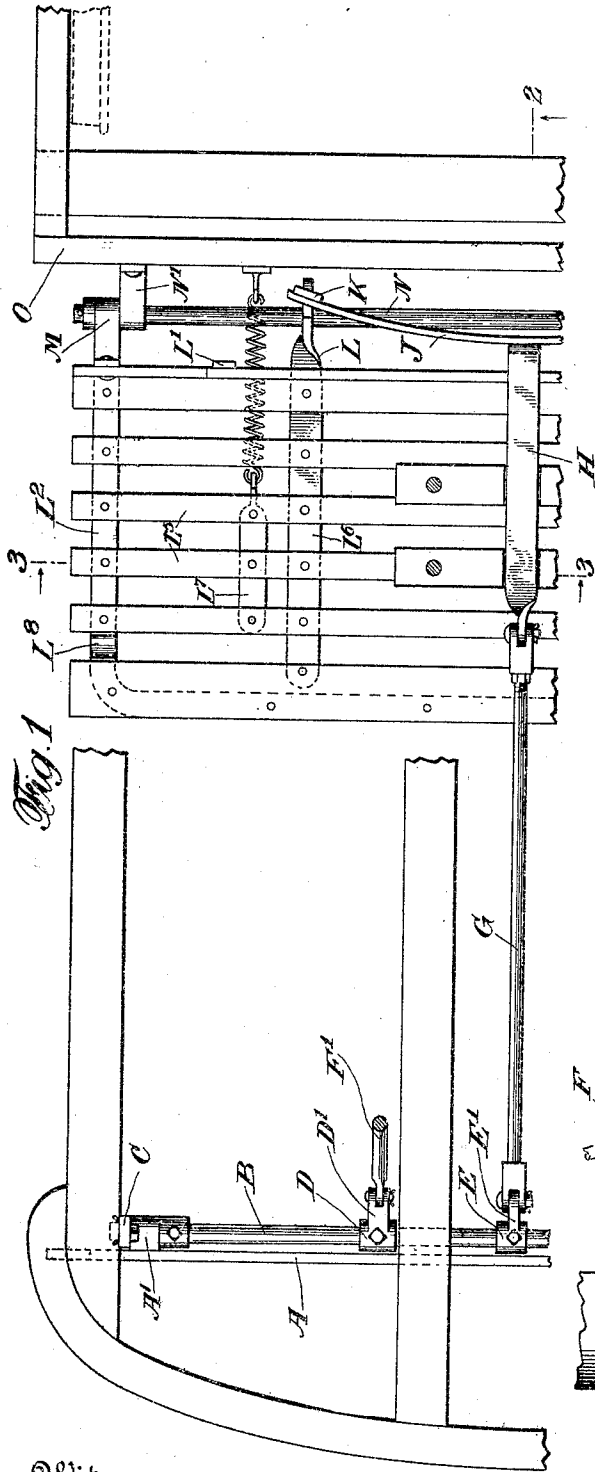


Fig. 1

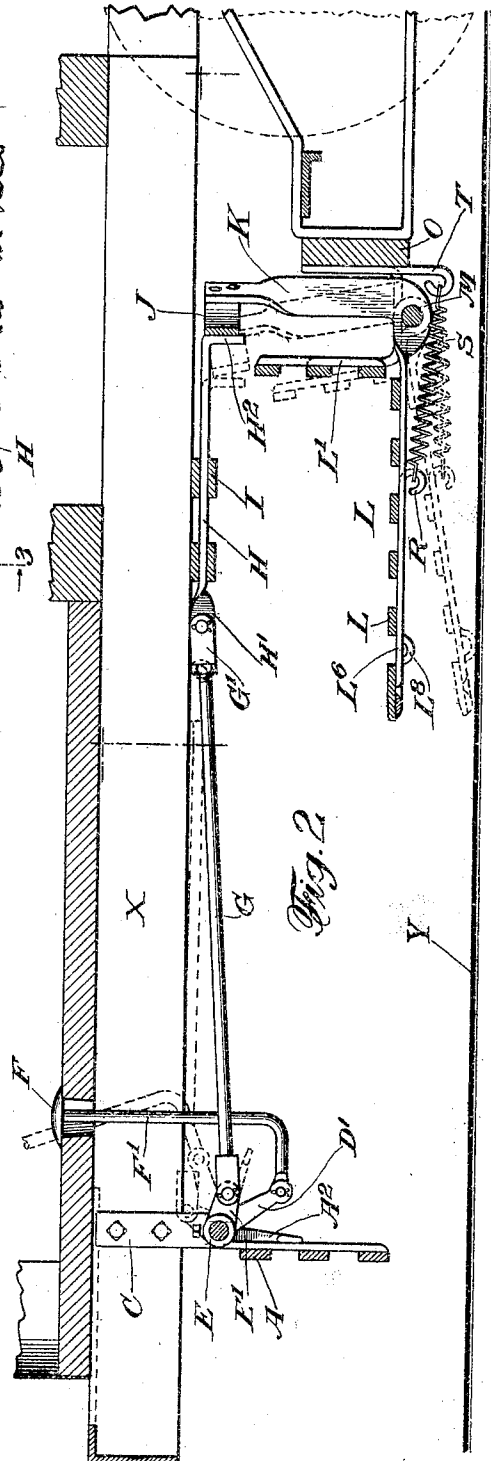


Fig. 2

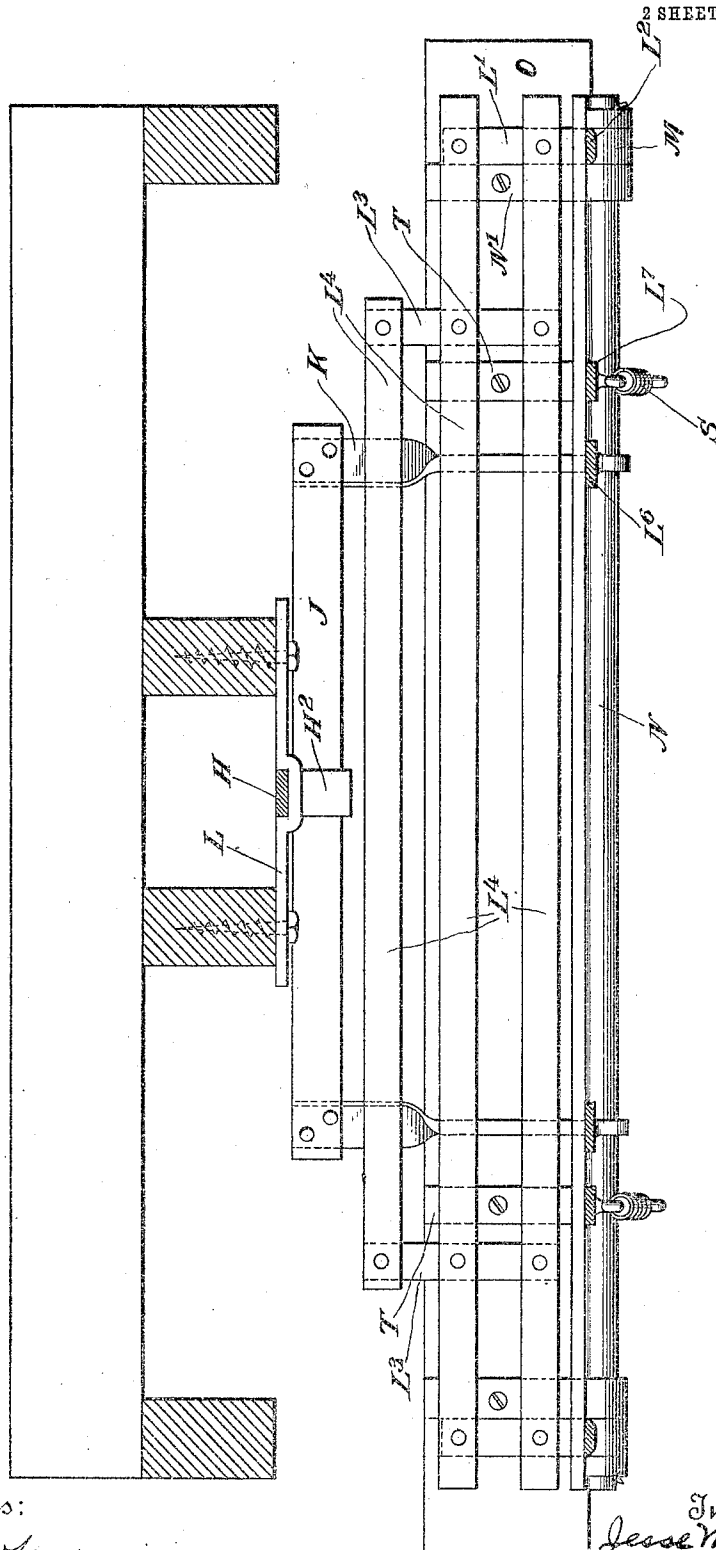
Witnesses:
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Alan C. Mc Donnell

Inventor
Jesse M. Yount
By his Attorney
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2 SHEETS—SHEET 2.

Fig. 3



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UNITED STATES PATENT OFFICE.

JESSE M. YOUNT, OF NEW YORK, N. Y.

WHEEL-GUARD.

958,791.

Specification of Letters Patent.

Patented May 24, 1910.

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To all whom it may concern:

Be it known that I, JESSE M. YOUNT, a citizen of the United States, and a resident of the borough of Manhattan, in the county of New York, city and State of New York, have invented certain new and useful Improvements in Wheel-Guards, of which the following is a specification.

My invention relates to devices designed to be attached to street railway and other cars and to serve the purpose of preventing injury to human beings and animals by guarding the wheels of the car.

The objects of the improvements are, among others, to provide a simple, strong and durable structure of this character which may be easily attached to the car and adjusted to its proper position and which will act with certainty and efficiency at all times and regardless of the position of the car and its wheels.

The invention consists in the construction, combination and arrangement of parts hereinafter described and claimed and illustrated in the accompanying drawings.

In the said drawings, Figure 1 is a plan of a wheel guard and its accessories embodying the improvements, one side of the apparatus being cut away longitudinally. Fig. 2 is a vertical section on the line 2—2 of Fig. 1 looking in the direction indicated by the arrows. Fig. 3 is a vertical cross section on the line 3—3 of Fig. 1.

The device may be said to consist of three principal parts: a tripping device provided with means for resetting; a connecting or transmitting mechanism and a wheel guard proper.

The tripping mechanism consists of a gate A pivotally hung from the bar B mounted between hangers C, secured to the underside of the car platform X, and its connections. A loose collar A', through which the bar B passes, is located at both sides and is connected with the gate through the arm A². A fixed collar D with an arm D' is provided for the resetting pedal, and a like collar E with arm E' provided for the transmitting mechanism. The gate A clears the track Y preferably by several inches and extends across from one track to the other at right angles thereto a short distance beyond said tracks at either side so that any object of considerable size on the tracks will come in contact with the said gate.

The resetting pedal F has an L-shaped arm F' extending down through the car platform and pivotally connected at its lower horizontally turned end with the arm D', so that when the gate swings backward, thereby oscillating the arm D', the pedal will be raised above the floor of the car platform, while, on the other hand, when the pedal is depressed, the arm D' and gate will be oscillated and moved forward to their normal positions. The upper position of the pedal F and connected parts is shown by dotted lines in Fig. 2.

When the gate A encounters an obstacle and is swung backward and upward it also oscillates the arm E' on the collar E and causes the rod G, pivotally connected thereto, to be drawn forward. The opposite end of this rod is pivotally connected with the flat bar H by means of a connecting head G' on the end of the rod G and a vertically turned portion H' at the end of the bar H, so that the reciprocating motion of the rod G is communicated to the bar H and causes the said bar to slide in the hanger guides I secured to the underside of the car platform and causes the downwardly turned rear end H² to press against or recede from the curved plate J. By this means the guard proper, with which the curved plate J is rigidly connected through the upright arm K, is caused to move simultaneously with the gate A at the front of the platform.

The wheel guard proper L is located directly in front of the wheels (dotted lines Figs. 1 and 2) nearest the end of the car and consists of vertical and horizontal parts secured together by arms L', L², respectively, connected with a common collar M mounted on the bar N carried by the truck O, a hanger N' connecting the said bar with the trucks. The collar M is loose on the bar N, so that the guard L will freely oscillate thereon. The construction of the guard L is completed by uprights L³ and cross pieces L⁴ of the upright portion and cross pieces L⁵ bolted or otherwise secured to the arms L² and L⁶ of the horizontal portion. At each side of the center of the guard are horizontal pieces L⁶ integral with the upright K carrying the curved plate J and in this manner the guard is connected with the other parts of the mechanism.

Secured to the strip L' on the bottom of the guard by means of a hook R is a tension spring S, the opposite end of which is con-

nected with the hook T on the truck O, and
 by this means a constant tension tending to
 draw the guard downward is maintained, so
 that when the rod G is drawn forward by
 5 the backward movement of the gate A and
 the downwardly turned end H² withdrawn
 from the curved plate J, the spring S will
 instantly pull the guard down until its
 outer end strikes the rails Y. It will be
 10 understood that the parts will remain in this
 position until restored by the depression of
 the pedal F, as heretofore described, which
 thrusts the rod G backward against the
 plate J and restores the guard L to its normal
 15 position, the parts being held in this
 position by the rod G and arm E', which are
 substantially on dead center.

Near the outer end of the bars L² are de-
 pressions L³, the object of which is to act as
 20 a guide for the wheel guard L by entering
 the slot of the rail, or where slotted rails
 are not used, by falling inside the rails, and
 thus preventing lateral movement.

The curved plate J is of peculiar construc-
 25 tion and arrangement and performs very
 important functions. The rail guard
 proper and connected parts, including the
 curved plate J, are all mounted on the wheel
 truck, and consequently move with the
 30 wheels and not with the body of the car.
 The other parts of the mechanism, however,
 are mounted on the floor of the car body
 and must, therefore, move with the car.
 Consequently at switches and curves a con-
 35 siderable amount of movement of the parts
 mounted on the body of the car and the
 parts mounted on the wheel trucks relative
 to each other is absolutely necessary. At the
 same time it is imperative that the adjust-
 40 ment of the parts shall not be disturbed and
 that they shall remain in constant opera-
 tive position at such times. I have, there-
 fore, devised the curved plate J which is
 bent to form an arc of a radius drawn from
 45 the pivotal point of the wheel trucks, so
 that the distance from the point of the said
 plate opposite the turned end H² to the arm
 E' by which the motion of the guard A is
 communicated to the wheel guard L is the
 50 same, no matter what the angle of the wheel
 trucks with respect to the body of the car
 may be. I have also so constructed and ar-
 ranged this plate and the adjacent parts so
 that there is no positive connection between
 55 them, and this secures two very important
 advantages: The car may be dismantled or
 assembled without making or unmaking any
 connection, and the parts can not become
 bent or broken through the neglect of work-
 60 men to attend to these matters, while, as
 soon as the car is placed upon the truck, the
 device is in operative position, it being nec-
 essary only to place a block under the guard
 L or to tie the upright K to the wheel truck.
 65 Another important advantage of this con-

struction is that the connection between the
 forward and rear parts of the mechanism
 cannot be damaged when the car "splits" a
 switch, as not infrequently occurs. In the
 event of such an accident the turned end H²
 will simply slip off the end of the curved
 plate J, whereas, in all devices where these
 parts are connected, instead of being merely
 in frictional contact, this accident will break
 or bend the parts and put the entire mech-
 75 anism out of operation. This also fre-
 quently occurs when the car leaves the track
 or whenever, from any cause, the wheel
 trucks are turned at a great angle to the car
 body.

What I claim as new is:—

1. The combination of a curved plate
 mounted on the wheel truck and movable
 therewith, said plate being adapted to have
 independent movement, a member adapted
 85 to be pressed against the said plate mounted
 on the car body and a guard connected with
 the said curved plate adapted to be moved
 in one direction through the said curved
 plate.

2. The combination of a curved plate
 mounted on the wheel truck and movable
 therewith, said plate being adapted to have
 independent movement, a member adapted
 95 to be pressed against the said plate mounted
 on the car body and a guard connected with
 the said curved plate adapted to be moved
 in one direction through the said curved
 plate, and a spring secured to the said guard
 for moving it in another direction.

3. The combination of a curved plate
 mounted on the wheel truck and movable
 therewith, said plate being adapted to have
 independent movement, a member adapted
 105 to be pressed against the said plate mounted
 on the car body and a guard connected with
 the said curved plate adapted to be moved
 in one direction through the said curved
 plate, and a spring secured to the said
 guard for moving it in another direction
 110 and means secured to the body of the car
 forward of the said guard for operating the
 member and adapted to press against the
 plate.

4. The combination of wheels mounted in
 115 a truck adapted to have rotary movement,
 a plate mounted on the said wheel truck
 curved on an arc struck from the truck
 pivot, a wheel guard mounted on the truck
 and connected with said plate, a member
 120 movably mounted on the car and means at
 the end of the car and outside of the wheel
 guard for moving the said member toward
 and from said plate and a spring connected
 125 with the truck and with the wheel guard for
 drawing the said guard downward.

5. The combination with a car and a
 suitable truck, of a curved plate mounted
 horizontally on a wheel truck and movable
 therewith, the convex side of said plate fac- 130

ing the nearest end of the car, a member disconnected from said plate and adapted to be pressed against the same mounted on the car body, and a guard connected with the said plate adapted to be moved in one direction through the said plate, and a spring secured to the said guard for moving it in another direction, and means secured to the body of the car forward of the said guard for operating the member adapted to press against the plate.

6. The combination of wheels mounted in a truck adapted to have rotary movement, a plate mounted on the said wheel truck curved on an arc struck from the truck pivot, a wheel guard mounted on the truck and connected with said plate, a member movably mounted on the car and means at the end of the car and forward of the wheel guard for moving the said member toward and from said plate and a spring connected with the truck and with the wheel guard for drawing the wheel guard downward.

7. The combination of wheels mounted in a truck adapted to have rotary movement, a plate mounted on the said wheel truck curved on an arc struck from the truck pivot, a wheel guard mounted on the truck and connected with said plate, a member movably mounted on the car disconnected from the said curved plate and having its rear-most extremity in advance thereof, and means at the end of the car and forward of the wheel guard for moving the said member toward and from the said plate.

8. In combination with wheels and a wheel truck on which a car is pivotally mounted, a plate mounted on the forward portion of the truck, the said plate being curved on an arc corresponding substantially with the arc described by the portion of the truck to which it is attached, a tripping device forward of said plate comprising a gate or tripping frame hung from the car so as to swing backward upon encountering an obstacle in its path, an arm rigidly connected with the said gate so as to oscillate therewith, a rod loosely connected with said arm and adapted to be reciprocated by the oscillation thereof and thereby to cause backward pressure on the said curved plate or permit the same to move forward, a fender connected to said plate and means constantly tending to move the lower part of said fender downward and the plate forward, the said arm and rod being substantially in line and on dead center when the parts are in normal position.

9. In combination with wheels and a wheel truck on which a car is pivotally mounted, a plate mounted on the forward portion of the truck, the said plate being curved on an arc corresponding substantially with the arc described by the portion of the truck to which it is attached, a tripping device forward of said curved plate comprising a gate or tripping frame hung from the car so as to swing backward upon encountering an obstacle in its path, a rod connected with the said gate so as to move therewith and thereby to cause backward pressure on the said curved plate or permit the same to move forward, said rod terminating in front of and being disconnected from said plate, a fender connected to said plate and means constantly tending to move the lower part of said fender downward and the plate forward, the said arm and rod being substantially in line and on dead center when the parts are in normal position.

10. In combination with wheels and a wheel truck on which a car is pivotally mounted, a plate mounted on the forward portion of the truck the said plate being curved on an arc corresponding substantially with the arc described by the portion of the truck to which it is attached, a tripping device forward of said curved plate comprising a gate or tripping frame hung from the car so as to swing backward upon encountering an obstacle in its path, an arm rigidly connected with the said gate so as to oscillate therewith, a rod loosely connected with the said arm and adapted to be reciprocated by the oscillation thereof and thereby to cause backward pressure on the said curved plate or permit the same to move forward, a fender connected to said plate and means constantly tending to move the lower part of said fender downward and the plate forward, the said arm and rod being substantially in line and on dead center when the parts are in normal position, a second arm connected to said gate and out of line with the first named arm and means connected therewith and extending through the floor of the car body for moving the gate to its normal position.

Witness my hand this 21 day of July 1909, at the city of New York, in the county and State of New York.

JESSE M. YOUNT.

Witnesses:

E. W. SCHERR, Jr.,
ALAN C. McDONNELL.