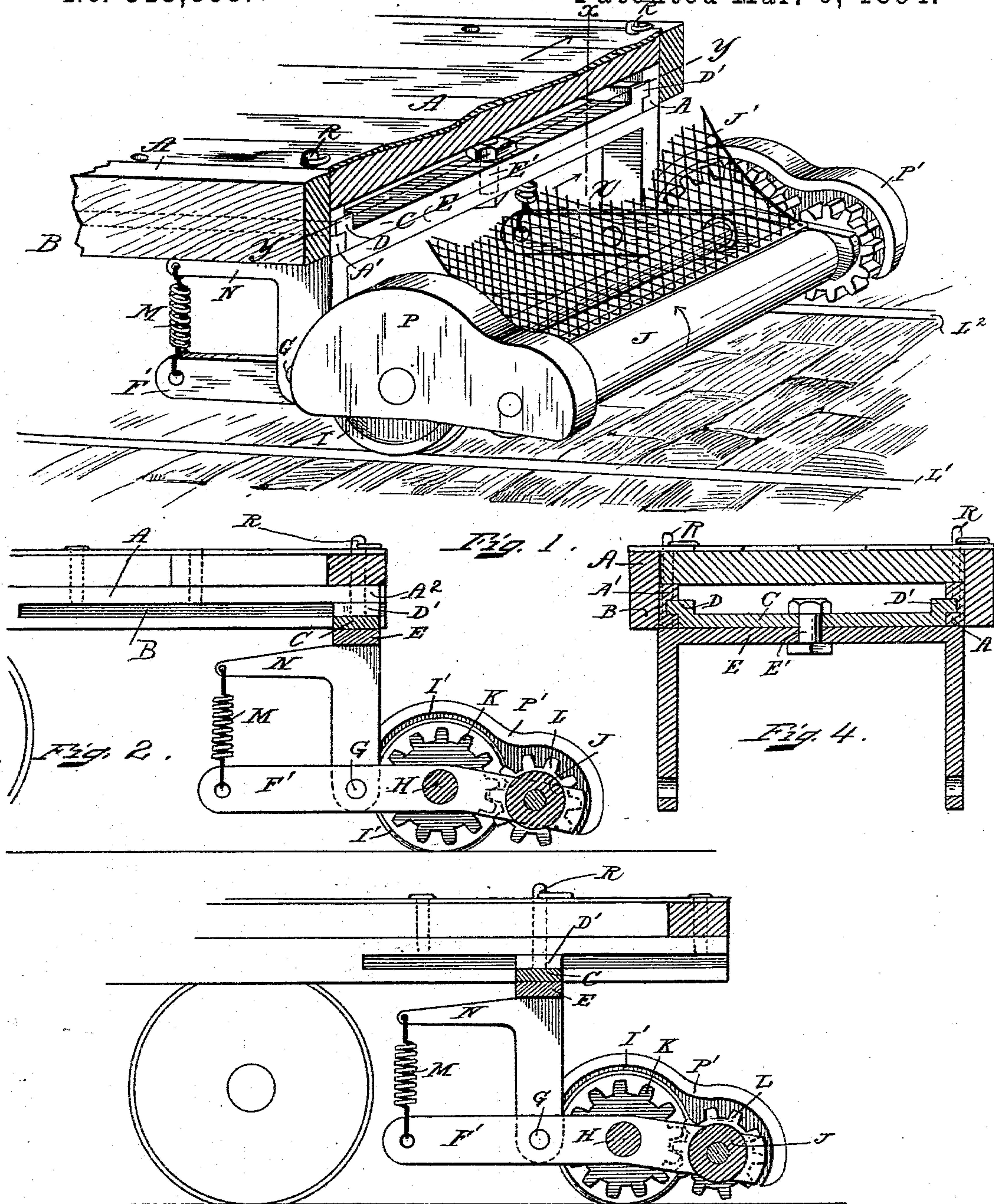


(No Model.)

R. C. LOTHROP.
STREET CAR FENDER.

No. 515,868.

Patented Mar. 6, 1894.



Witnesses
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UNITED STATES PATENT OFFICE.

RANDOLPH C. LOTHROP, OF SOMERVILLE, MASSACHUSETTS.

STREET-CAR FENDER.

SPECIFICATION forming part of Letters Patent No. 515,868, dated March 6, 1894.

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To all whom it may concern:

Be it known that I, RANDOLPH C. LOTHROP, of Somerville, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Street-Car Fenders, which will, in connection with the accompanying drawings, be hereinafter fully described, and specifically defined in the appended claims.

My invention relates to improvements in street car fenders and has for its object the prevention of fatal injuries to persons who may be upon the track and exposed to the danger of being run over and crushed by a moving car.

In the accompanying drawings, Figure 1. is a perspective illustration of my invention applied to the platform of a car. Fig. 2. is a vertical section of the same taken as on line $x x$, Fig. 1, and as viewed from the left of said line, and showing the attachment in its advanced position in front of the car. Fig. 3. is a like section showing the attachment retracted and drawn under the platform as when following the car. Fig. 4. is a cross-section taken as on line $y y$, Fig. 1, and as viewed from the right of said line.

The following is a description of the method of applying my said invention as illustrated in the drawings, but the same may be varied in details of construction, and must necessarily be, to some extent, to practically adapt it to the varying styles of cars to which it is applicable.

To the frame work A of the car platform and beneath the flooring thereof are secured, in any proper manner, two horizontal side bars A and A', having therein longitudinal grooves B and B'. These bars, being firmly attached to the frame work, securely uphold the sliding cross-bar C, the ends D and D' of which are supported by, and slide backward and forward in, the grooves B, B' for a purpose which will be stated. To bar C is attached the swivel-frame E, hung by a central bolt E' to bar C. The pendent sides of the swivel-frame support side bars F and F' by means of a rod G extended through said parts, so that the bars rock on the ends thereof. Bars F and F' carry a shaft H upon which are secured two trucks I and I', and a roll J arranged to be turned in the outer ends of the

bars. Upon the inner face of truck I' is secured a gear K, and upon roll J is a smaller gear L which is arranged to be engaged and turned by gear K to revolve the roll which is raised slightly above the rails L', L², on which the car moves. Truck I' is turned by frictional contact with the rail, and through the gears mentioned imparts a reverse motion to the roll J, so that the top of the roll turns toward the car, which motion, as before stated, tends to prevent a body from passing under the guard or fender, and to raise and cast the body up over the roll onto the safety net J' secured to the fender back of the roll, so as to safely uphold and carry a body cast thereon. Said gearing may be so constructed as to increase or diminish the relative speed of the roll to such extent as may be found to be most advantageous in practical use. And the roll may be covered with rubber, felt, or any other suitable material to render the same somewhat soft and yielding, and to increase its effectiveness in adhering to, and picking up and rolling a body on to the safety net or platform immediately behind the roll. A spring M, is attached at one end to each of the bars F and F' at the rear ends thereof, while the opposite ends of the springs are attached to arms N, which extend backward from the sides of frame E and constitute a part of the same. By this means the frictional contact of trucks I and I' with their rails may be increased or diminished according to the contractile force of the springs employed. The springs also constitute an elastic connection which allows the trucks to yield to any inequalities in the surface of the track over which they roll, and to accommodate themselves to any rocking motion of the car occasioned by such inequalities. And the horizontal swivel movement of frame E adapts the fender to readily follow any curves in the track without cramping and interfering with the easy progress of the car around the same. The trucks and gears are covered by cases P and P' which keep out dirt and guard them against coming in contact with any object. When the fender is advanced by sliding bar C forward in grooves B, in front of the car, as shown in Figs. 1 and 2, and ready for practical use, it may be secured in such position by stop pins R dropped through holes in the sides of the platform of the car and into holes

in the bar C, as shown; and may also be secured in like manner when retracted, as shown in Fig. 3 when moving at the rear of a traveling car and so drawn in to occupy less room in the street.

The practical operation of my improved rotary fender, above described, is probably apparent from the description already given, but may be briefly restated as follows: With the fender advanced as in Figs. 1 and 2, a forward movement of the car causes the trucks I and I' to roll upon their tracks, and, thus rolling, the gear K upon truck I' being engaged with the smaller gear L, upon roll J, causes the roll to revolve in an opposite direction and with increased speed. When thus in motion if the revolving guard-roll of the fender should be forced into contact with the body of a person on the track, the effect of such revolving roll would be to keep the body from being jammed under the fender and crushed by the car wheels, and with the further probable result of raising the body and casting it on to the net and thereby rescuing it from fatal injury.

I claim—

1. A street-car fender embodying the combination of an advanced frame attached to the car: and the forward end thereof being capable of both a vertical and lateral movement for the purposes specified: a revolving guard-roll attached to the front of said frame and arranged to be carried along thereby at a slight elevation above the track: means for revolving said guard-roll toward the car: and a safety net or platform immediately behind the roll; all substantially as and for the purposes specified.

2. A car-fender embodying the combination of a swivel-frame secured to the car and adapted to turn around curves in the track; and provided with rocking side bars adapted to yield to the inequalities of the surface of the track; trucks mounted in said yielding side bars and arranged to roll on the tracks;

a guard-roll carried by said side bars in front of the trucks: a geared connection between the roll and trucks through which rotary motion is imparted by the trucks to the roll; and a safety net or platform behind the roll; all substantially as and for the purposes specified.

3. A car-fender embodying the combination of a swivel-frame E attached to the platform of the car so that it may be turned in either direction: arms N extending backward therefrom: side bars F and F' mounted on a shaft G in said frame so as to turn on the shaft: spring M connecting the side bars with arms N: shaft H mounted in bars E: trucks I on shaft H and turning therewith: revolving roll J carried in the forward ends of bars E: gears K and L connecting trucks I' and roll J so as to transmit motion from the truck to the roll: inclosing cases P and P': and net J'; all substantially as and for the purposes specified.

4. The combination of grooved bars A attached to the car platform: bar C suspended from the grooves in bars A, and arranged to slide forward and backward therein: stoppins R: swivel-frame E secured to bar C by bolt E': rocking bars F: springs M: trucks I: gears K and L: roll J: and net J'; all substantially as and for the purposes specified.

5. The combination of an advanced swivel-frame attached to the car and upholding rocking side bars: a revolving guard-roll attached to the front ends of said bars: trucks carried by the side bars behind said guard-roll and arranged to run on the tracks and to impart rotary motion to the roll: and a spring or springs attached to the rear ends of the rocking bars and arranged to turn the same so as to force the trucks down upon the tracks; all substantially as specified.

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Witnesses:

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